

Bureau of TennCare

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# The Impact of TennCare on Women's Health in Tennessee

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December 2001

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Department of Finance & Administration  
State of Tennessee



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# Executive Summary



## Overview

In 2000, 57.8 percent of 1,532,599 TennCare enrollees were females. Of this number, 73.3 percent were 12 years and older. The majority of adult TennCare enrollees are women, and the legislature of Tennessee requires an annual report to monitor the health care received by this important population. This report uses TennCare encounter data and Department of Health vital records to monitor key issues in women's health. Eleven perinatal rates, fourteen utilization indicators of general health care services, and multiple breakdowns of demographic detail are evaluated.

## Summary of Key Findings

The perinatal indicators compared two groups of TennCare female enrollees (Medicaid eligible and uninsured / uninsurable) to the non-TennCare population and state average. The number of resident births in Tennessee for 2000 was 79,539, with 47.0 percent of those births to TennCare mothers. This is a slight decrease from 1999, in which 48.7 percent of the births to Tennessee residents were to women enrolled in TennCare. Although the birth rate for TennCare enrollees is considerably higher than for women not enrolled in TennCare, the rate for Medicaid eligible enrollees has decreased from 1993 while the overall Tennessee birth rate has increased over the same time period. The statewide adolescent birth rate has dropped over time, attributable primarily to a decrease for Medicaid eligible enrollees. The C-section percentage for TennCare mothers has remained lower than the non-TennCare percentage since 1993, regardless of race or eligibility category. After holding steady from 1993 to 1999, the median interval between deliveries decreased in 2000, reflected across both TennCare and non-TennCare individuals. For black women, however, the median interval decreased only for those women not enrolled in TennCare.

The overall rate of infant mortality in the first year of life for TennCare infants has been closing the gap with the non-TennCare population since 1993, although the TennCare rate is still slightly higher than the non-TennCare rate. The year 2000 saw an increase in the statewide infant mortality rate across both TennCare and non-TennCare enrollees. Because the infant mortality rate is calculated by dividing the number of deaths within a year by the number of births within the same year, however, it is subject to timing issues related to how soon after birth the infant died. Infant case fatality, on the other hand, uses a cohort of children and is calculated as the proportion of infants born who died within the first year of their life. Rates for 2000 are not yet available, because of incomplete death data. The statewide infant case fatality rate for 1999 decreased substantially from the previous year, while the infant mortality rate was constant over the same time period.

The percentage of TennCare women who receive prenatal care during the first trimester is lower than the non-TennCare percentage. After steadily increasing over time, the percentage of women receiving care in the first trimester decreased across all racial groups regardless of TennCare eligibility. This decrease in early prenatal care may be a factor in the slight increase in the percentage of low birth weight infants for black TennCare women and non-TennCare enrollees regardless of race.

General service utilization indicators were derived from TennCare encounter data. The rate of primary care physician (PCP) visits per TennCare female member year age 21 through age 64 has decreased slightly since 1998, with the urban rates consistently below the TennCare average. In contrast, the rate of specialist visits for the same population has increased. During that same period, the rate of hospital discharges decreased, as did the rate of bed days. The rate of hospitalizations for conditions responsive to appropriate outpatient care decreased over the time period as well. The rate of emergency department visits increased from 1998 to 2000, however. The rate of women receiving pap smears and mammograms both increased from 1998 to 2000, with the rate of mammograms relatively steady from 1999 to 2000. The rate of hysterectomies, mastectomies, and cholecystectomies for TennCare women has remained relatively steady since 1998. The rates of breast and cervical cancer have increased since 1998, with a slight drop from 1999 to 2000 for cervical cancer.

## Conclusions

Perinatal care in the TennCare program has several significant strengths as well as opportunities for improvement. Infant mortality rates have steadily improved more than the general population, with drastic lowering of non-white infant mortality. C-section rates remain lower than the non-TennCare population. The highest percentages of C-sections were recorded in MCOs that are affiliated and closest to the regional perinatal centers in western and middle Tennessee. In addition, the highest rates for infant mortality among the Medicaid eligible enrollees were recorded by MCOs that have membership in regions close to the regional perinatal center in west Tennessee. The regional perinatal centers are therefore providing a significant safety-net function in the TennCare program.

There is a strong correlation between low birth weight and preterm deliveries. Analysis of the two variables showed that 70.9 percent of all low birth weight babies in Tennessee were also preterm in 2000. Early entry into prenatal care is considered to be a major factor in reducing low birth weight and preterm deliveries. The continuing decline in infant case fatality is indicative of improved outcomes in the management and care of women of child bearing age.

Additional information from the analysis of the utilization pattern for health services, including an increase in the rate of specialist visits while the rate of hospital discharges and bed days decreased, shows that there is increasing emphasis on outpatient care.

## Recommendations

The findings from the study of The Impact of TennCare on Women's Health in Tennessee indicate that the TennCare program has contributed in improving the health status of women in Tennessee.

With respect to perinatal care, TennCare needs to explore the possible explanations for the statewide upward trend in mortality and to identify improvement incentives that will lead to better outcomes in prenatal care. Once pregnant women become eligible for TennCare and make their first contact, prenatal providers need to monitor for risk factors and continue referring high-risk



pregnancies for specialist care. Encouraging MCOs to strengthen their prenatal management and oversight will assist TennCare in its continuing effort to improve outcomes.

The shift from PCP to specialist care and the observed increase in emergency department visits by enrollees are conditions that are not optimal for preventive care. The managed care organizations should continue to provide education to their enrollees on appropriate use of medical / health services. Managed care organizations and their providers should also continue to work collaboratively to ensure that proper utilization of health services are encouraged in order to address the increase in ER use.



# Section I

# Introduction



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## Overview

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This annual report is in fulfillment of an ongoing legislative requirement to evaluate and monitor the health status of women in the TennCare program, Tennessee's capitated managed care delivery system providing health services to approximately 1.5 million Tennesseans. Continuing evaluation is needed to determine if the TennCare program is having a favorable impact in improving health outcomes and in limiting the growth of health expenditures.

Since the majority of the adult TennCare population are women, evaluation of the effectiveness of health care services provided to this segment of the TennCare population is of major importance. This report provides information on measures and assessment methods previously used to aid in evaluating the quality of health services provided to women in the TennCare program. Reviewing information from the present reporting year in relation to past years is beneficial in understanding where progress is being realized. Specific areas addressed include demographic information, birth rates, infant mortality, prenatal care, presumptive eligibility, utilization of services, and diagnosis prevalence. Information is provided for the overall TennCare program as well as by individual managed care organizations (MCOs) and community service areas (CSAs).

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## Methodology

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### Data

Data used to derive information presented in this report include TennCare eligibility file information and TennCare encounter records. Each managed care organization provides the Bureau of TennCare with information concerning health services delivered to TennCare members. This health services information is collected and stored in the form of encounter records.

Data from the Vital Statistics Division of the Tennessee Department of health were also used to analyze information on yearly births and deaths in the state. Only births to Tennessee residents were included. Additionally, records sealed due to adoptions or other reasons as well as records for events that occurred outside Tennessee were not included in the birth data file extracts used in analysis. These records are a small proportion of total Tennessee births and, therefore, should have little effect on the final results. Vital Statistics data were related to the TennCare eligibility files on the basis of the mother's social security number. Births were defined as TennCare births if the infant's date of birth occurred while the mother was a TennCare member.

### Analysis

Analyses in this report consist of the calculation and comparison of rates and percentages. Analyses were performed for Tennessee's TennCare population, as well as the non-TennCare population when data were available. Results were also broken down by managed care organization (MCO) and community service area (CSA). Birth analysis results are based on Vital Statistics data from 2000 with previous years included for comparison when available. Data are broken down for TennCare's separate Medicaid eligible and uninsured / uninsurable populations. Encounter analysis results are shown for the years 1998 through 2000. Methodology used in respective analyses was consistently applied so that valid comparisons could be made to all relevant populations.

Results of the analyses are displayed in designated charts and tables in the report narrative. Due to definitional changes and availability of more complete data, some results differ from those previously reported by the Bureau of TennCare.

### Calculation of Rates

Population counts are not as meaningful for rate calculations when reporting on a Medicaid or Medicaid-type population because members tend to move in and out of eligibility. A rate calculated using member years has proven to be more appropriate when analyzing these types of data; therefore, member years were used in calculating the rates provided in this report. Member years were calculated by dividing the total number of eligible days for members of the population by 365 (366 for year 2000). Crude proportions were then computed by dividing the number of occurrences for the respective population by the number of member years to yield the proportions of occurrences per member year. In most cases, rates presented in this report are occurrences per 1000 member years (calculated crude proportion multiplied by 1000).

## Statistical Significance

The data analyzed for this report represent entire respective populations. Thus, no sampling error is realized, and any differences between groups are real differences. However, results should be interpreted with caution. Differences are sometimes low in magnitude and may not be of practical significance.





# Section II

# Demographics



1,532,599 separate individuals were eligible to receive health care services through the TennCare program in 2000. The period of eligibility within the year varied for each person, depending on his or her particular circumstances. Of this total count, 886,272 (57.8 percent) were female. There were four cases of undocumented gender. Table 2.1 shows number and percentage breakdowns for TennCare females. The group of females between the ages of 18 and 39 accounted for both the greatest percentage of TennCare females (32.0%) and the largest demographic group (18.5%) of the total TennCare population. Of the total 886,272 TennCare females, 649,333 were age 12 and older, accounting for 73.3 percent of all TennCare female members and 42.4 percent of the total TennCare population.

**Table 2.1**  
**Number and Percent of TennCare Females by Age Group, 2000**

Age Group	Number	Percent of TennCare Female Population	Percent of Total TennCare Population
0 to 11	236,939	26.7%	15.5%
12 to 17	84,421	9.5%	5.5%
18 to 39	283,945	32.0%	18.5%
40 to 64	183,194	20.7%	11.9%
65 and older	97,773	11.0%	6.4%
Totals	886,272	100%	57.8%

Table 2.2 presents a further focus on TennCare female enrollees age 12 and older broken down by racial status. White females made up the largest racial group in each of the four displayed age groups. White and black females accounted for the great majority of TennCare females age 12 and older, comprising 94.0 percent of all females in this age range. The overall percentage of white and black females ranged from 96.7 percent of the 12 to 17 year olds to 90.3 percent of the 65 and older age group.

**Table 2.2**  
**TennCare Females Age 12 and Older by Race / Ethnic Status, 2000**

Race	Age 12 to 17		Age 18 to 39		Age 40 to 64		Age 65 and Older	
	Number	% of All Females in Age Group <sup>1</sup>	Number	% of All Females in Age Group <sup>1</sup>	Number	% of All Females in Age Group <sup>1</sup>	Number	% of All Females in Age Group <sup>1</sup>
White	53,295	63.1%	185,669	65.4%	129,243	70.5%	68,620	70.2%
Black	28,316	33.5%	87,786	30.9%	38,065	20.8%	19,621	20.1%
Hispanic	1,191	1.4%	2,887	1.0%	519	0.3%	84	0.1%
Other	1,118	1.3%	4,361	1.5%	1,580	0.9%	970	1.0%
Unknown	501	0.6%	3,242	1.1%	13,787	7.5%	8,478	8.7%

<sup>1</sup>Total of percentages may not equal 100 percent due to rounding.

Table 2.3 displays TennCare females age 12 and older broken down by the eight MCOs providing health services in 2000. BlueCare and Access Med Plus (AMP) provided health services to the largest percentage of the TennCare population and, correspondingly, serviced the greatest percentage of females age 12 and older, as can be seen in tabulated results in each respective age group. Overall, BlueCare provided services to 43.5 percent of females age 12 and older. Access Med Plus provided services to 26.1 percent of females in this age group.

**Table 2.3**  
**TennCare Females Age 12 and Older by Managed Care Organization, 2000<sup>1</sup>**

MCO	Age 12 to 17		Age 18 to 39		Age 40 to 64		Age 65 and Older	
	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>
OmniCare	3,236	3.8%	10,768	3.8%	5,775	3.2%	2,349	2.4%
BlueCare	33,890	40.1%	115,878	40.8%	86,269	47.1%	46,690	47.8%
John Deere	2,843	3.4%	10,008	3.5%	6,949	3.8%	3,722	3.8%
TLC	5,590	6.6%	18,802	6.6%	9,262	5.1%	4,278	4.4%
Xantus	7,888	9.3%	27,463	9.7%	17,149	9.4%	9,889	10.1%
PHP	5,900	7.0%	19,832	7.0%	13,209	7.2%	6,840	7.0%
AMP	24,232	28.7%	78,356	27.6%	43,231	23.6%	23,360	23.9%
VHP	842	1.0%	2,837	1.0%	1,348	0.7%	645	0.7%

<sup>1</sup>Of the total 649,333 TennCare females age 12 and older, 3 were unclassified as to MCO documentation.

<sup>2</sup>Total of percentages may not equal 100 percent due to rounding.

Table 2.4 displays numbers and percentages of females age 12 and older by community service area (CSA). The Shelby CSA had the highest percentage of these females in the two younger age groups, and the East CSA had the highest in the older groups. Overall, Shelby had 108,610 (16.7 percent) of the 649,333 female population age 12 and older. The East CSA had the next highest percentage of females age 12 and older, accounting for 89,234 (13.7 percent) of females in this TennCare population.

**Table 2.4**  
**TennCare Females Age 12 and Older by Community Service Area, 2000<sup>1</sup>**

CSA	Age 12 to 17		Age 18 to 39		Age 40 to 64		Age 65 and Older	
	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>	Number	% of All Females in Age Group <sup>2</sup>
Northeast	6,734	8.0%	24,166	8.5%	18,145	9.9%	10,191	10.4%
East	11,179	13.2%	36,704	12.9%	27,773	15.2%	13,578	13.9%
Southeast	4,656	5.5%	15,283	5.4%	11,364	6.2%	5,843	6.0%
Upper Cumb	5,152	6.1%	16,876	5.9%	13,306	7.3%	7,518	7.7%
Mid-Cumb	8,435	10.0%	28,498	10.0%	17,279	9.4%	8,552	8.7%
So Central	5,045	6.0%	16,364	5.8%	11,111	6.1%	6,921	7.1%
Northwest	4,084	4.8%	13,003	4.6%	9,726	5.3%	6,706	6.9%
Southwest	6,240	7.4%	19,442	6.8%	13,274	7.2%	8,612	8.8%
Davidson	7,218	8.6%	27,372	9.6%	14,300	7.8%	6,746	6.9%
Hamilton	3,997	4.7%	13,861	4.9%	8,714	4.8%	4,493	4.6%
Knox	4,086	4.8%	14,980	5.3%	10,186	5.6%	4,681	4.8%
Shelby	16,824	19.9%	53,308	18.8%	25,436	13.9%	13,042	13.3%

<sup>1</sup>Of the 649,333 TennCare females age 12 and older, 8,326 were documented as being out of state. There were 3 members with unknown county / CSA documentation.

<sup>2</sup>Total of percentages may not equal 100 percent due to rounding.



# Section III

## Birth Data





## Births

### Yearly Births by Race and TennCare Status

Table 3.1 gives the number of births to Tennessee residents broken down by year, race, and the mother's Medicaid / TennCare status. Total births have increased steadily from 1993 to 2000, and this is generally true of each of the subcategories. The most notable exception is for the Medicaid eligible population, for which the number of births has fallen somewhat. Since 1993, the total number of births to Tennessee residents has increased by 15 percent, whereas the number of births to Medicaid eligible enrollees decreased by nearly five percent.

**Table 3.1**  
**Number of Births by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	69,432	36,675	32,757	n/a	31,602	21,600	n/a
1995	72,493	37,854	30,843	3,796	32,849	19,794	2,957
1996	72,840	37,302	32,439	3,099	32,212	20,835	2,467
1997	73,647	37,897	32,566	3,184	32,659	20,883	2,546
1998	76,515	39,214	33,226	4,075	33,803	21,442	3,174
1999	77,761	39,868	32,341	5,552	34,488	20,903	4,432
2000	79,539	42,140	31,222	6,177	36,347	19,730	4,851

**Table 3.1 (continued)**

Year	All Groups	Race: Black			Race: Other		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	69,432	4,488	10,904	n/a	580	249	n/a
1995	72,493	4,334	10,704	765	684	326	74
1996	72,840	4,229	11,116	574	861	488	58
1997	73,647	4,346	11,275	599	892	408	39
1998	76,515	4,494	11,438	852	917	346	49
1999	77,761	4,364	11,065	1,053	1,016	373	67
2000	79,539	4,567	11,072	1,239	1,226	420	87

## Yearly Births by MCO and CSA

Tables 3.2 and 3.3 display the number of births by year and managed care organization for Medicaid eligible enrollees and uninsured / uninsurable enrollees, respectively. In general, there are considerably more births to Medicaid eligible enrollees than there are to the uninsured / uninsurable. BlueCare, with the largest enrollment, had the largest number of births in both enrollment categories while VHP had the lowest.

The number of births by year and community service area for non-enrolled individuals are shown in Table 3.4. Data for Medicaid eligible enrollees are shown in Table 3.5, and Table 3.6 shows similar data for uninsured / uninsurable enrollees. Shelby County has the largest number of 2000 births to Medicaid eligible enrollees, while the East CSA has the largest number of births to uninsured / uninsurable enrollees and the Mid-Cumberland CSA to non-enrollees. The Northwest CSA has the lowest number of births to all three groups.

**Table 3.2**  
**Number of Births by Year and MCO for Medicaid Eligible Enrollees**

MCO	1995	1996	1997	1998	1999	2000
OmniCare	1,056	1,159	1,208	1,147	1,050	1,348
BlueCare	16,334	17,607	9,427	10,830	15,875	10,826
John Deere	388	606	1,174	507	725	1,498
TLC	1,124	1,194	1,636	2,146	1,942	2,593
Xantus	3,187	3,576	3,184	5,551	3,061	1,773
PHP	1,211	1,245	3,035	2,897	1,804	2,484
Prudential	389	471	470	501	535	n/a
AMP	6,835	6,316	8,730	9,282	7,104	10,372
VHP	316	263	350	365	245	328

**Table 3.3**  
**Number of Births by Year and MCO for Uninsured / Uninsurable Enrollees**

MCO	1995	1996	1997	1998	1999	2000
OmniCare	263	170	158	173	184	176
BlueCare	1,954	1,754	1,596	1,846	2,547	2,852
John Deere	51	49	68	78	136	191
TLC	82	54	83	148	200	299
Xantus	358	312	151	597	780	769
PHP	235	163	195	293	417	426
Prudential	37	23	41	52	58	n/a
AMP	789	551	609	860	1,191	1,422
VHP	27	23	22	28	39	42

**Table 3.4**  
**Number of Births by Year and CSA for Non-Enrollees**

MCO	1993	1995	1996	1997	1998	1999	2000
Northeast	2,381	2,485	2,296	2,356	2,553	2,380	2,655
East	3,301	3,517	3,352	3,425	3,568	3,632	3,841
Southeast	1,502	1,636	1,559	1,669	1,696	1,769	1,839
Upp Cumb	1,405	1,559	1,497	1,574	1,559	1,611	1,704
Mid-Cumb	6,470	6,895	7,252	7,397	7,722	8,148	8,416
S Central	2,086	2,122	1,985	1,986	2,105	2,247	2,539
Northwest	1,313	1,327	1,280	1,210	1,238	1,349	1,437
Southwest	1,948	2,021	1,844	1,879	2,094	2,147	2,270
Davidson	4,411	4,502	4,526	4,692	4,784	4,832	5,233
Hamilton	1,948	1,979	1,854	1,927	1,939	2,010	2,138
Knox	2,708	2,700	2,805	2,817	2,820	2,750	2,923
Shelby	7,202	7,111	7,052	6,965	7,136	6,993	7,145

**Table 3.5**  
**Number of Births by Year and CSA for Medicaid Eligible Enrollees**

MCO	1993	1995	1996	1997	1998	1999	2000
Northeast	2,571	2,416	2,454	2,470	2,652	2,546	2,444
East	3,880	3,367	3,639	3,606	3,764	3,638	3,551
Southeast	1,759	1,635	1,665	1,740	1,649	1,705	1,573
Upp Cumb	1,687	1,663	1,828	1,766	1,898	1,835	1,726
Mid-Cumb	3,233	3,056	3,297	3,511	3,482	3,515	3,359
S Central	1,861	1,754	1,898	2,005	1,985	2,006	1,821
Northwest	1,540	1,520	1,617	1,514	1,544	1,521	1,497
Southwest	2,234	2,250	2,241	2,259	2,276	2,247	2,153
Davidson	3,761	3,251	3,331	3,322	3,318	3,196	3,185
Hamilton	1,808	1,656	1,728	1,634	1,685	1,585	1,609
Knox	1,923	1,715	1,744	1,652	1,733	1,678	1,579
Shelby	6,500	6,560	6,997	7,087	7,240	6,869	6,725

**Table 3.6**  
**Number of Births by Year and CSA for Uninsured / Uninsurable Enrollees**

MCO	1993	1995	1996	1997	1998	1999	2000
Northeast	n/a	320	231	224	344	429	489
East	n/a	517	467	466	564	825	909
Southeast	n/a	225	177	176	274	377	430
Upp Cumb	n/a	184	163	182	227	323	407
Mid-Cumb	n/a	460	410	414	523	693	789
S Central	n/a	174	184	166	274	363	387
Northwest	n/a	124	84	111	139	234	269
Southwest	n/a	225	175	185	261	419	487
Davidson	n/a	429	364	324	370	496	563
Hamilton	n/a	152	131	115	150	203	281
Knox	n/a	215	151	202	193	312	294
Shelby	n/a	771	562	619	756	878	872

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## Birth Rate

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The birth rate is the number of births per 1000 individuals of the total population. In the case of Medicaid and TennCare enrollees this rate is calculated using member years instead of numbers of individuals, because Medicaid enrollees tend to go in and out of eligibility as their circumstances change. Therefore, a more representative rate can be calculated using member years instead of numbers of individuals.

Table 3.7 gives the birth rate by year, race, and TennCare status. The rate for Medicaid enrollees is considerably higher regardless of race, while the rate for the uninsured / uninsurable is similar to that for non-enrollees. As with the number of births, the overall birth rate has increased from 1993 to 2000, while the rate for Medicaid eligible enrollees has decreased over the same time period. After a gradual increase from 1995 to 1999, the Medicaid eligible rate decreased in 2000. The same pattern is seen for Medicaid eligible whites and is similar for blacks, with the exception of the 2000 rate, which increased from 1999 to 2000.

Similar data are shown in Figures 3.1 through 3.3 for managed care organizations and Figures 3.4 through 3.6 for community service areas. Figure 3.1 gives the birth rates by managed care organization and eligibility category for 2000. This figure reveals that the differential birth rate between Medicaid eligibles and uninsured / uninsurable enrollees exists across all managed care organizations.

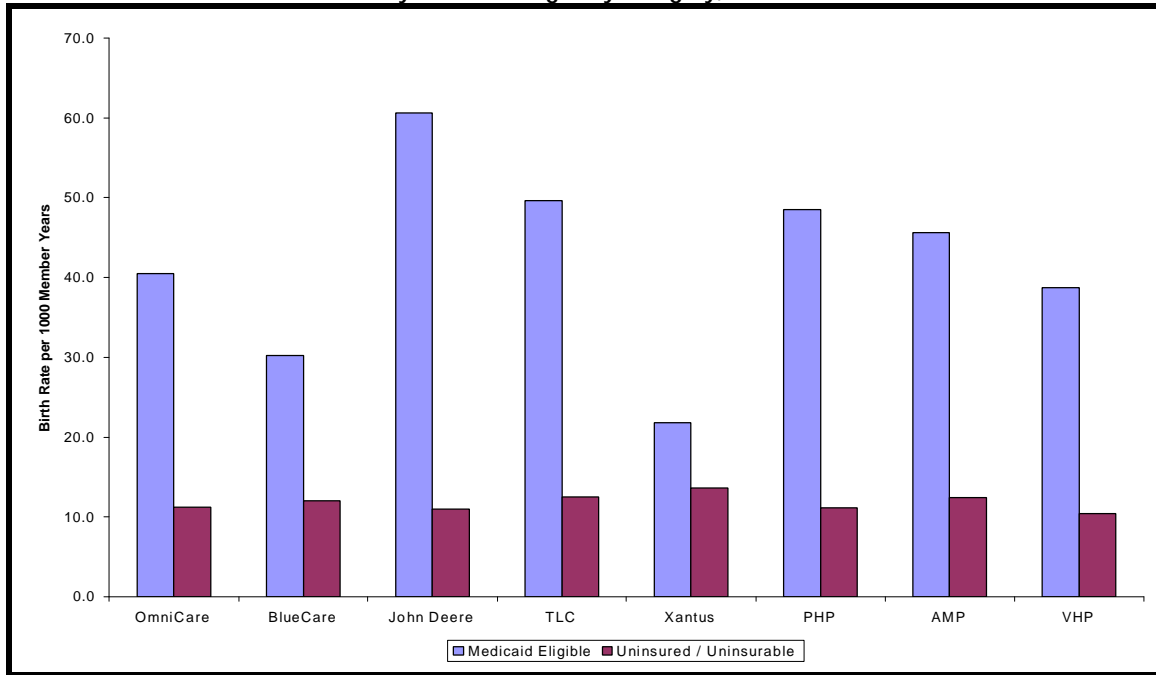
The birth rate increased from 1998 to 2000 among Medicaid eligible enrollees of John Deere, as shown in Figure 3.2, while the remainder of the MCOs decreased or remained relatively stable. Among the uninsured / uninsurable the birth rate remained stable or increased slightly in most managed care organizations, as shown in Figure 3.3.

A similar differential between Medicaid eligible enrollees and the uninsured / uninsurable is shown in Figure 3.4, and this differential exists across all community service areas. Figure 3.5 reveals that the rates for Medicaid eligible enrollees have remained relatively consistent across the three years. All CSAs except Mid-Cumberland have a lower birth rate than the statewide rate in 1993. Similar information for the uninsured / uninsurable is shown in Figure 3.6.

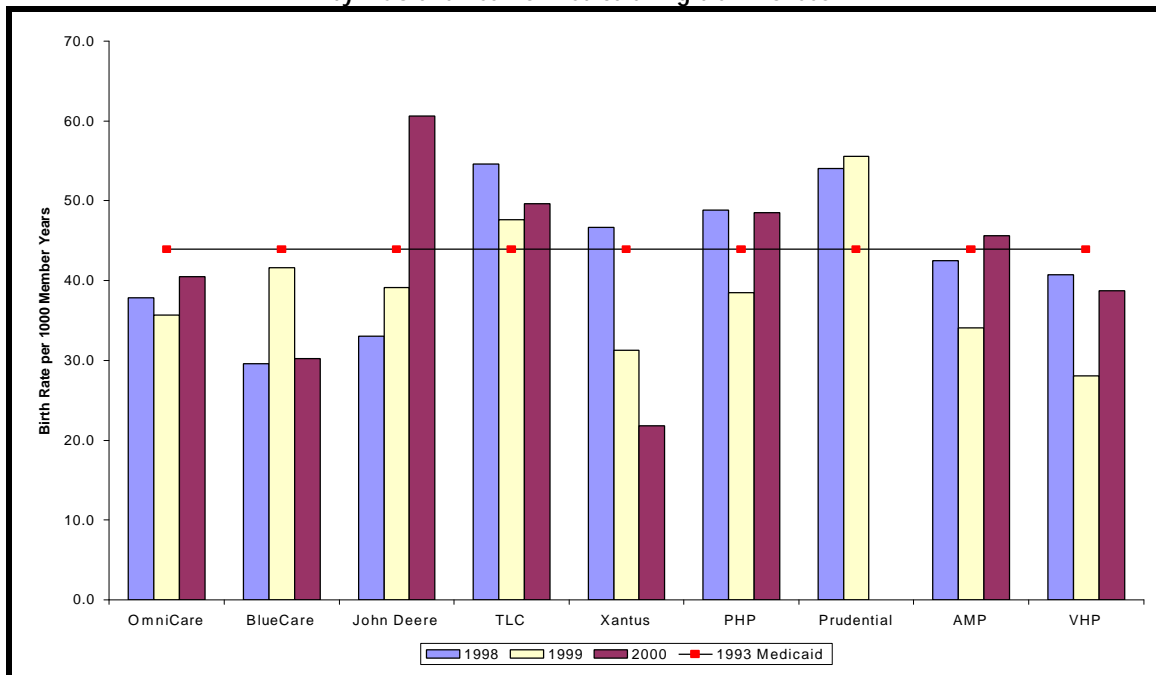
**Table 3.7**  
**Birth Rate per 1000 Population by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	13.6	8.4	43.9	n/a	8.4	46.9	n/a
1995	13.9	9.4	36.3	10.7	9.3	37.4	10.9
1996	13.8	9.1	37.1	10.4	9.0	38.1	10.3
1997	13.7	9.1	37.4	10.3	9.0	38.4	10.0
1998	14.1	9.4	38.3	10.6	9.3	40.1	10.2
1999	14.2	9.6	38.4	11.5	9.4	42.8	11.7
2000	14.4	10.1	37.3	12.1	9.9	40.7	12.2
Year	All Groups	Race: Black			Race: Other		
1993	13.6	8.3	39.1	n/a	13.0	41.3	n/a
1995	13.9	9.6	34.4	9.5	16.1	38.4	17.1
1996	13.8	8.8	34.9	10.2	18.9	50.1	15.6
1997	13.7	8.7	35.4	11.6	18.4	42.4	10.0
1998	14.1	9.1	35.4	12.9	18.6	34.6	9.1
1999	14.2	8.9	37.1	12.4	29.1	26.3	5.6
2000	14.4	8.8	37.5	13.5	31.2	27.0	5.7

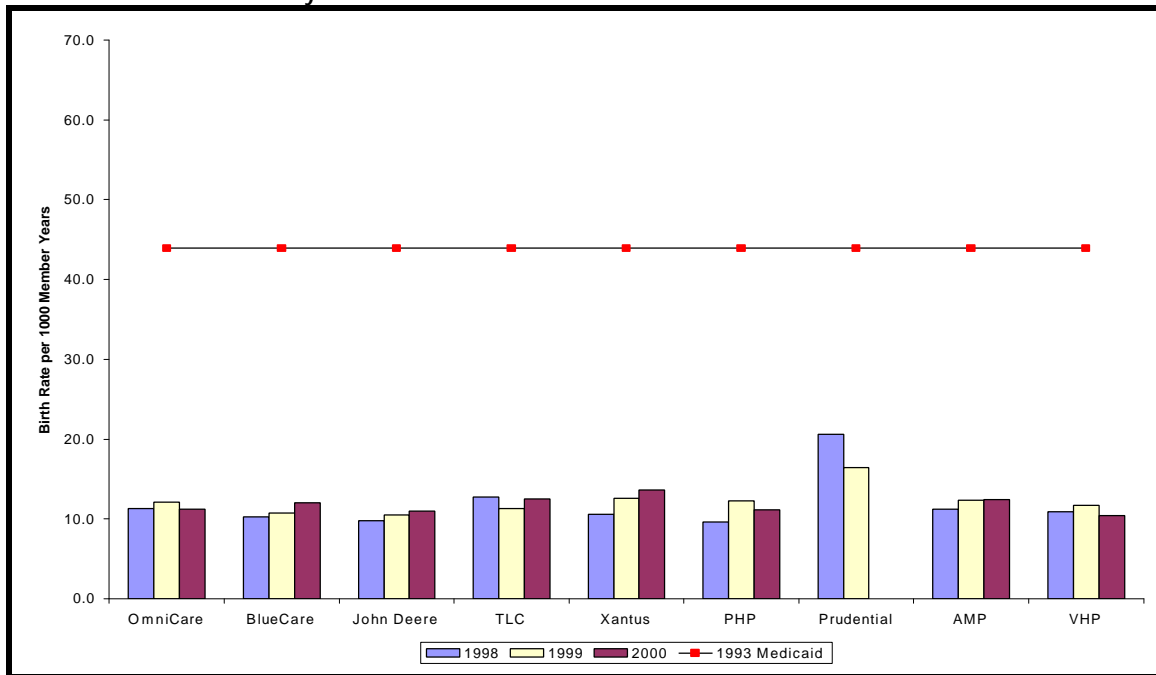
**Figure 3.1**  
Birth Rate per 1000 Member Years of Total Population  
by MCO and Eligibility Category, 2000



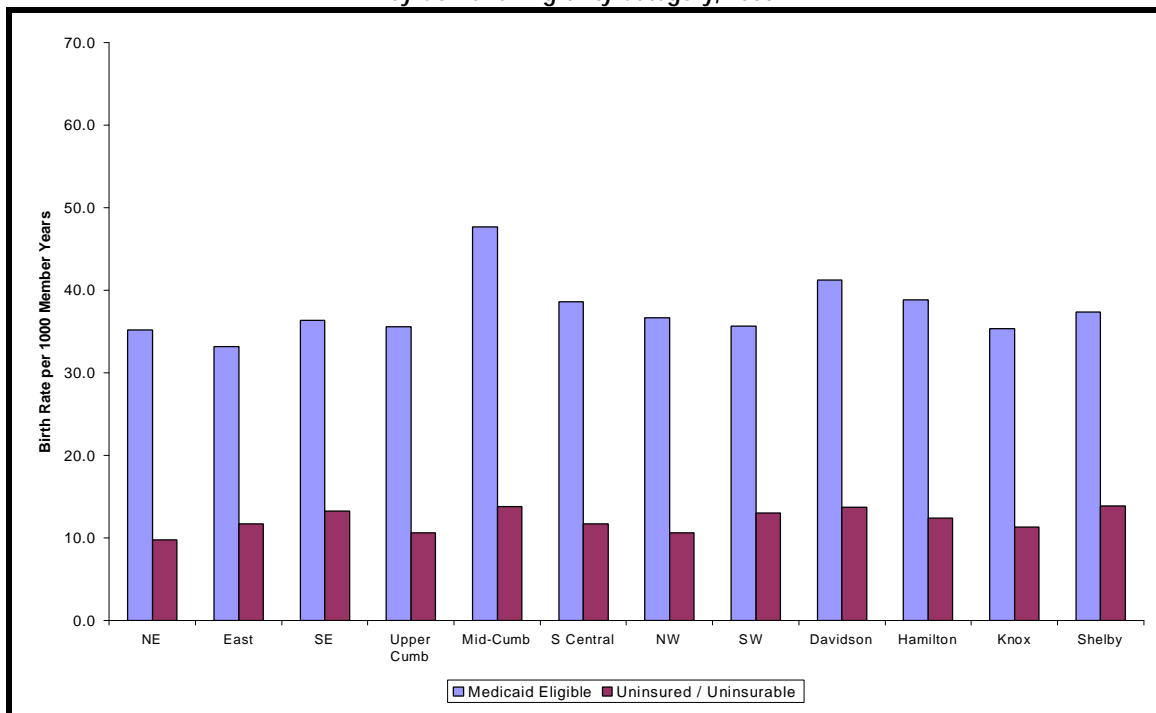
**Figure 3.2**  
Birth Rate per 1000 Member Years of Total Population  
by MCO and Year for Medicaid Eligible Enrollees



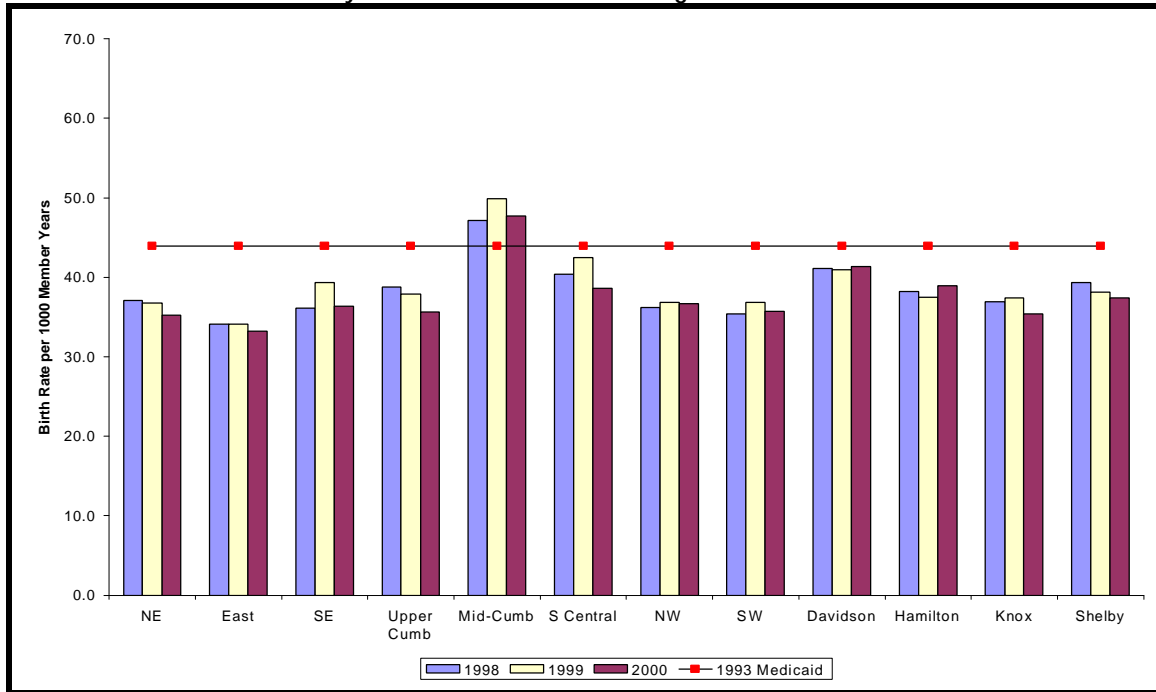
**Figure 3.3**  
Birth Rate per 1000 Member Years of Total Population  
by MCO and Year for Uninsured / Uninsurable Enrollees



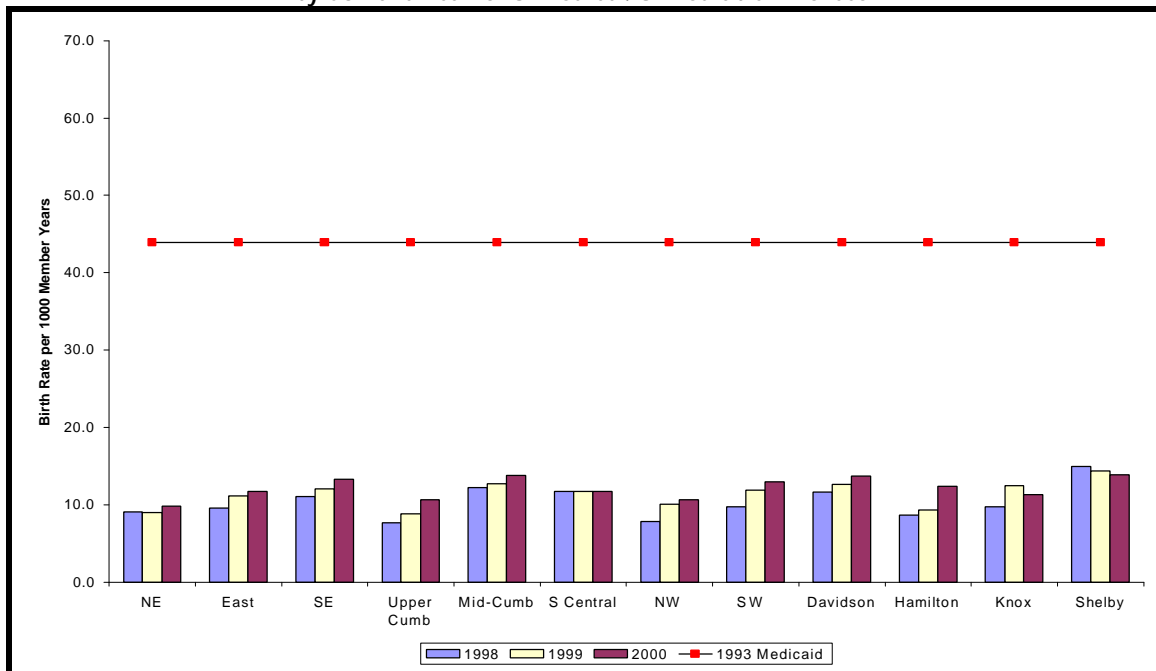
**Figure 3.4**  
Birth Rate per 1000 Member Years of Total Population  
by CSA and Eligibility Category, 2000



**Figure 3.5**  
Birth Rate per 1000 Member Years of Total Population  
by CSA and Year for Medicaid Eligible Enrollees



**Figure 3.6**  
Birth Rate per 1000 Member Years of Total Population  
by CSA and Year for Uninsured / Uninsurable Enrollees





## Fertility Rate

The fertility rate is defined as the number of births per 1000 females between the ages of 15 and 44. As with the birth rate, the fertility rates for Medicaid and TennCare women are based on member years instead of individuals. Table 3.8 displays fertility rates broken down by year, race, and Medicaid / TennCare status. Similar to the birth rate, there was a gradual increase in the overall fertility rate from 1993 to 2000. After a significant decrease from 1993 to 1995, rates for Medicaid eligible enrollees jumped in 1998 above the 1993 Medicaid rate. The uninsured / uninsurable have rates similar to non-enrolled individuals.

Figure 3.7 shows fertility rates by managed care organization and eligibility category for TennCare enrollees in 2000. The rates for Medicaid eligible enrollees are considerably higher than those for the uninsured / uninsurable regardless of MCO. The rates for Medicaid eligible enrollees are shown in Figure 3.8, while the rates for the uninsured / uninsurable are shown in Figure 3.9. These figures reveal that the rates for Medicaid eligible enrollees have increased from 1998 to 2000 for OmniCare, John Deere, PHP, and Access Med Plus. The rates for the uninsured / uninsurable have also increased except for OmniCare and TLC.

Fertility rates across CSA in 2000 are shown in Figure 3.10, and rates for Medicaid eligible enrollees and uninsured / uninsurable enrollees are shown in Figures 3.11 and 3.12, respectively. All CSAs have increased to meet or exceed the 1993 statewide rate for Medicaid eligible enrollees, and the rates for the uninsured / uninsurable also show increases for all CSAs. For Medicaid eligibles, all CSAs except Shelby and Knox have rates in 2000 that exceed the 1993 Medicaid rate. Rates for the year 2000 were lower than those in 1998 for residents for the Upper Cumberland and Shelby CSAs. With respect to the uninsured / uninsurable, the 2000 rate was lower for the Shelby and South Central CSAs.

**Table 3.8**  
**Fertility Rate by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	58.1	37.4	152.9	n/a	37.5	175.0	n/a
1995	60.0	44.1	125.2	36.3	43.8	137.7	36.8
1996	59.8	42.6	127.7	35.8	42.4	139.0	35.7
1997	60.2	42.8	130.4	36.2	42.7	142.0	35.6
1998	62.2	42.5	158.7	41.5	43.0	173.6	40.3
1999	65.2	45.7	165.5	44.3	45.8	188.3	45.4
2000	64.5	46.3	163.5	46.4	46.7	182.7	47.2
Year	All Groups	Race: Black			Race: Other		
1993	58.1	36.0	121.8	n/a	43.4	201.8	n/a
1995	60.0	45.5	106.4	33.5	54.8	166.6	63.4
1996	59.8	41.0	109.1	35.1	65.2	220.8	55.6
1997	60.2	40.6	112.2	38.6	64.3	192.8	35.7
1998	62.2	36.9	136.0	46.5	62.4	200.3	38.6
1999	65.2	38.3	144.2	43.4	100.6	133.3	19.3
2000	64.5	36.9	147.1	46.7	95.9	141.3	28.3

Figure 3.7  
Fertility Rate per 1000 Female Member Years Age 15 through 44  
by MCO and Eligibility Category, 2000

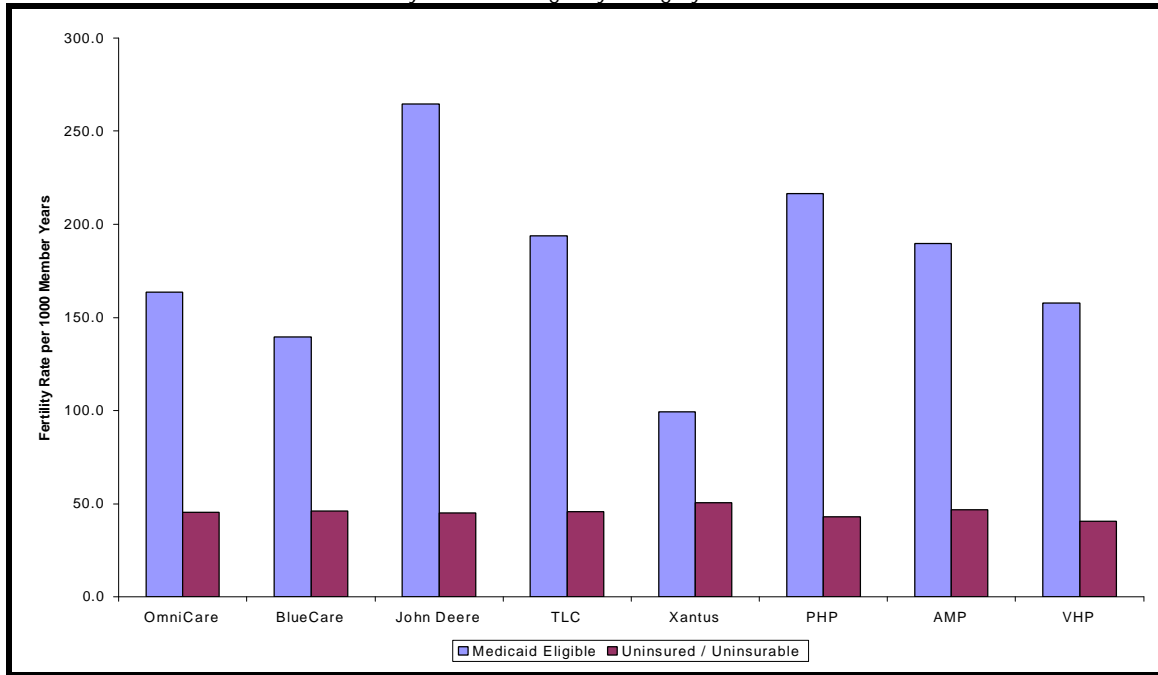
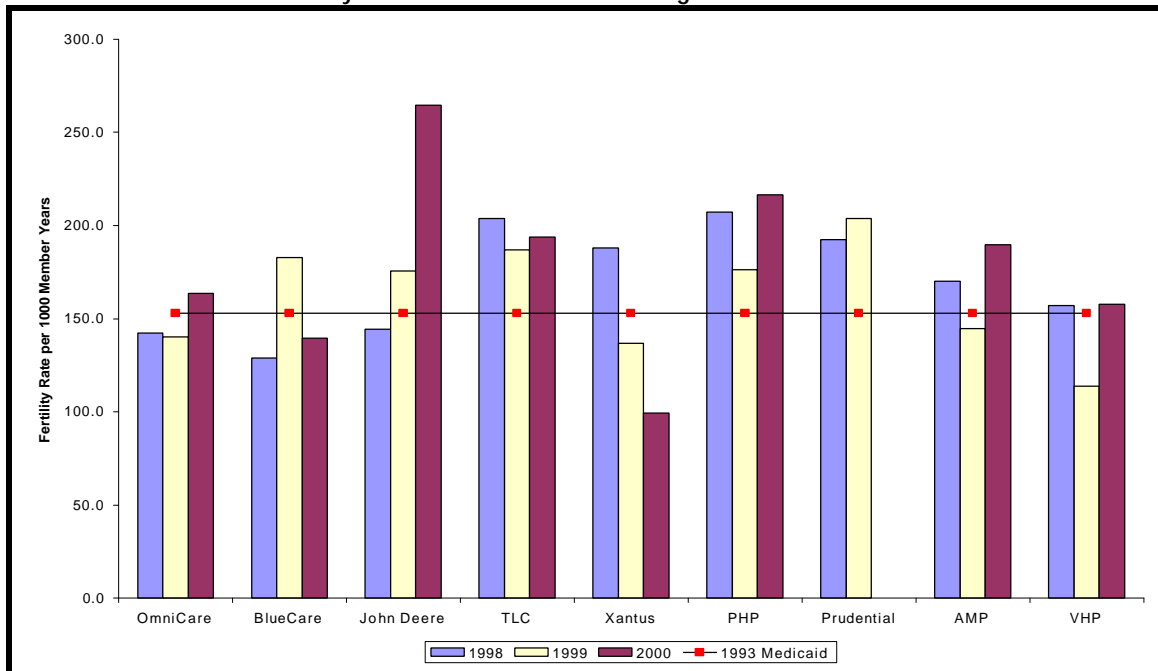
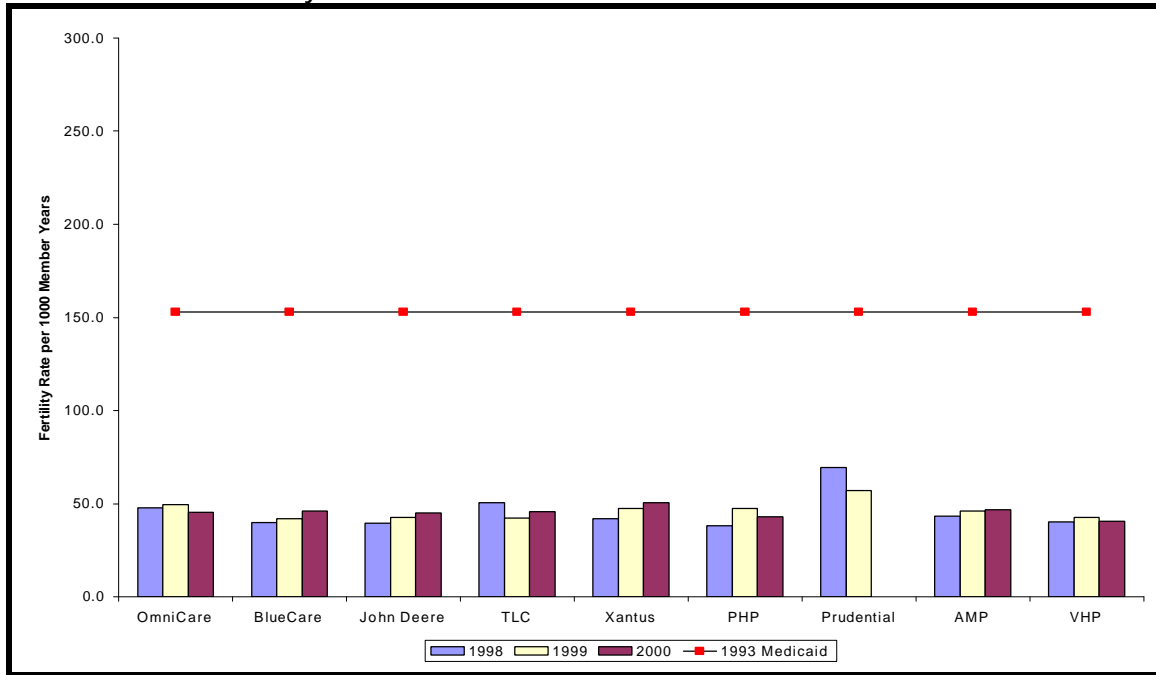


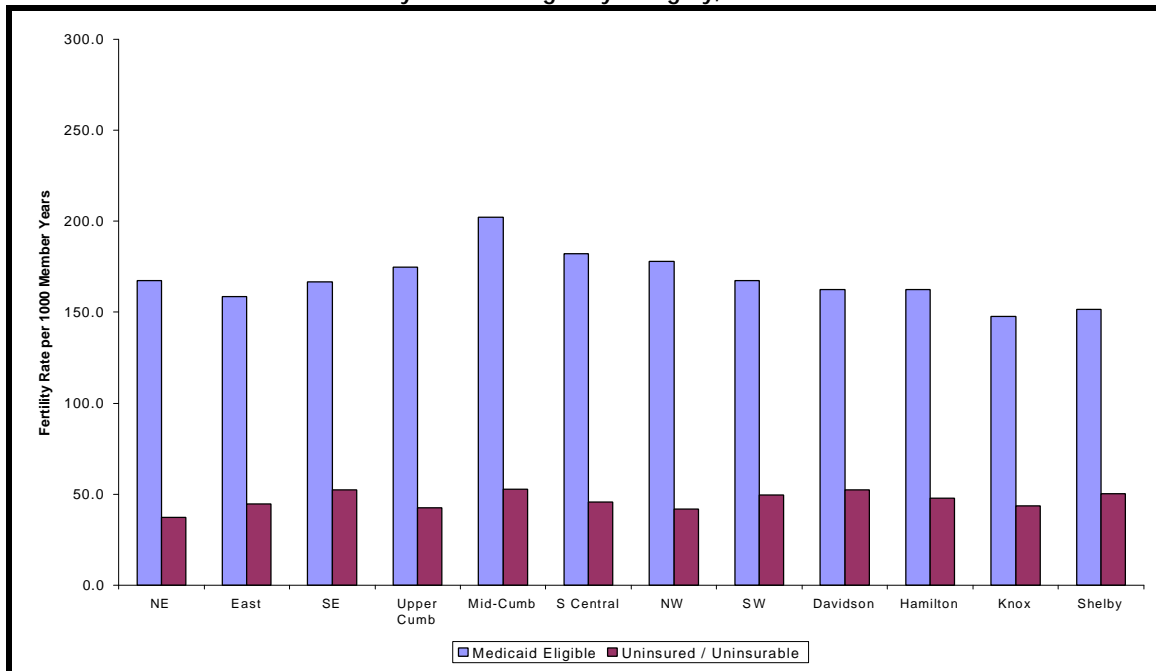
Figure 3.8  
Fertility Rate per 1000 Female Member Years Age 15 through 44  
by MCO and Year for Medicaid Eligible Enrollees



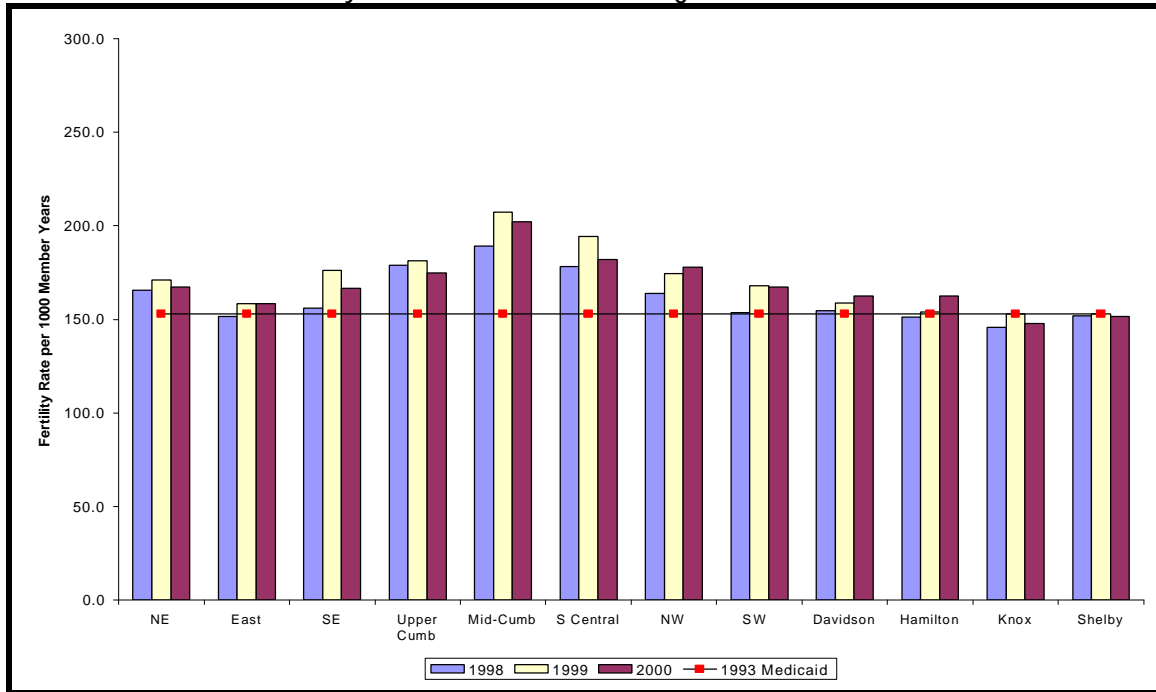
**Figure 3.9**  
Fertility Rate per 1000 Female Member Years Age 15 through 44  
by MCO and Year for Uninsured / Uninsurable Enrollees



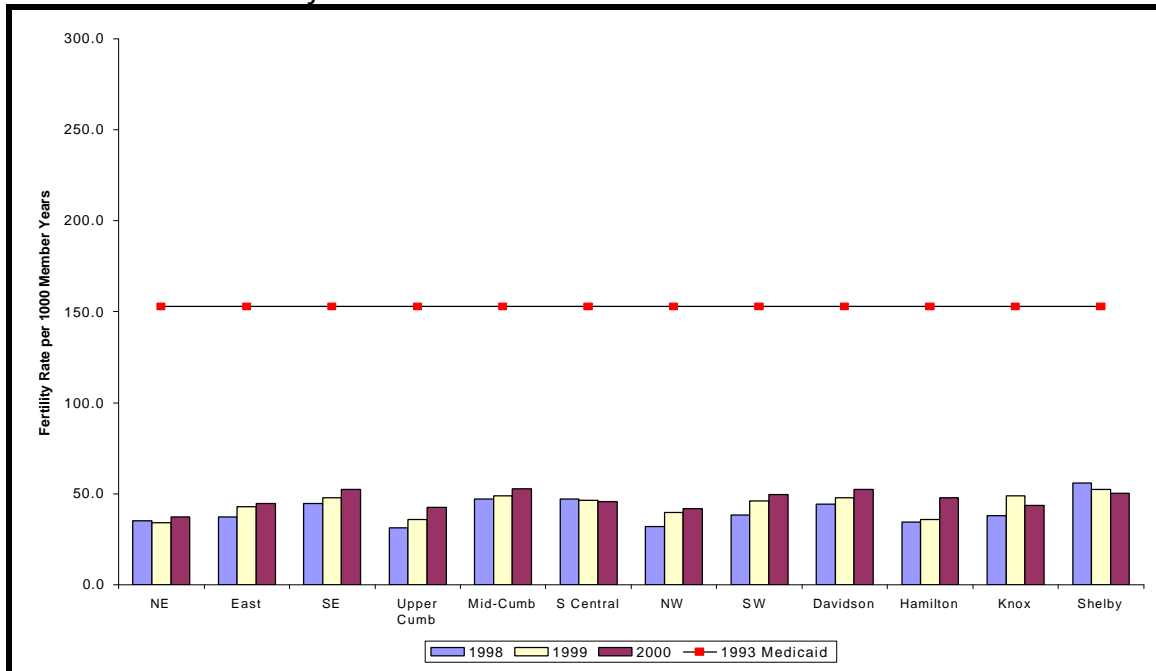
**Figure 3.10**  
Fertility Rate per 1000 Female Member Years Age 15 through 44  
by CSA and Eligibility Category, 2000



**Figure 3.11**  
**Fertility Rate per 1000 Female Member Years Age 15 through 44**  
**by CSA and Year for Medicaid Eligible Enrollees**



**Figure 3.12**  
**Fertility Rate per 1000 Female Member Years Age 15 through 44**  
**by CSA and Year for Uninsured / Uninsurable Enrollees**



## Adolescent Birth Rate

The definition of adolescent birth rate was revised for the current report to reflect the number of births to females between the ages of 12 and 18 per 1000 females of the same age group. Table 3.9 gives the adolescent birth rates broken down by year, race, and Medicaid / TennCare status for the years 1998 through 2000. Results for 1993 through 1997 are displayed in Table 3.10 with the previous definition using 10 to 17-year-olds, because data for this time period are not currently available. Most notable is a downward trend in the overall rate, attributable primarily to a decrease for the Medicaid eligible enrollees. The rate for black Medicaid eligibles is lower and decreased to a larger degree over the three year period than the rate for white Medicaid eligible enrollees over the same time period.

Figure 3.13 gives adolescent birth rates by MCO and eligibility category in 2000. The adolescent birth rate for Medicaid eligible enrollees is higher in every MCO than the rate for the uninsured / uninsurable, and it is highest for John Deere. The rate is lowest for Xantus. Figures 3.14 and 3.15 give the rates by year and managed care organization. While rates for most MCOs decreased from 1998 to 2000, rates for John Deere Medicaid eligibles increased during the time period. With respect to the uninsured / uninsurable enrollees, rates for BlueCare, PHP, and Access Med Plus were higher in 2000 than in 1998.

Figures 3.16 through 3.18 give rates for the various CSAs. The results in these figures are similar to the MCO results. The rates for the uninsured / uninsurable show increases in most CSAs. Rates increased over the time period for only Medicaid eligibles in the Southeast CSA.

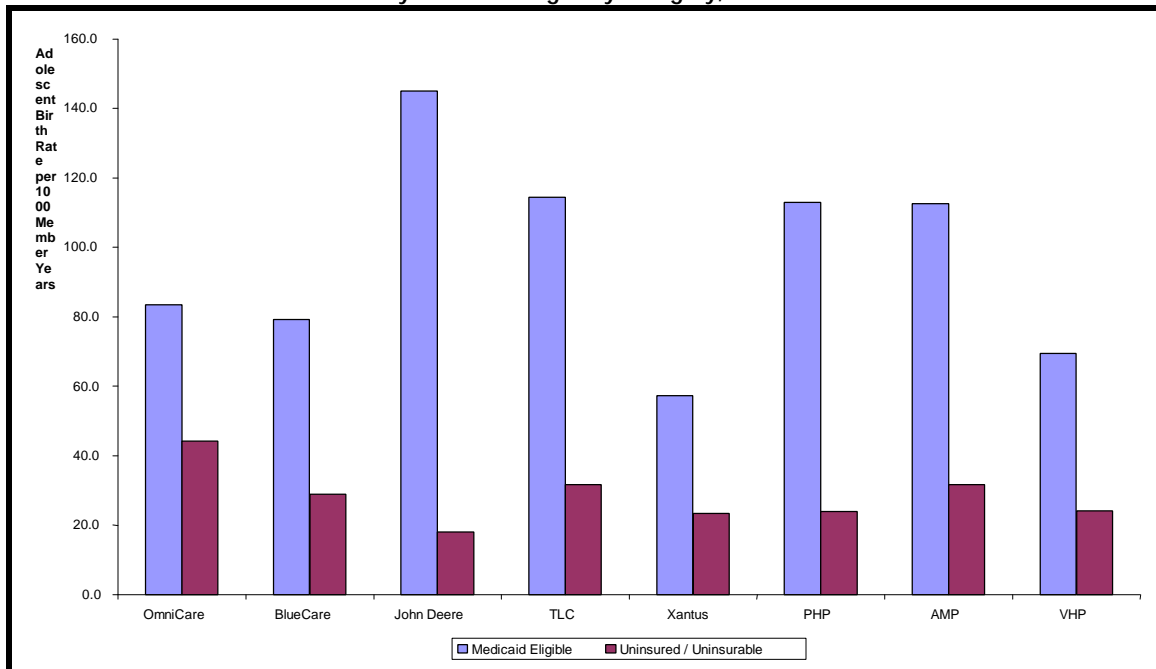
**Table 3.9**  
**Adolescent Birth Rate (Age 12 to 18) by Year, Race, and TennCare Status, 1998 - 2000**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1998	30.1	6.9	105.0	25.6	5.5	113.5	23.0
1999	28.1	6.3	98.4	29.5	5.1	110.5	29.4
2000	27.6	7.5	93.7	28.7	6.4	103.9	28.5
Year	All Groups	Race: Black			Race: Other		
1998	30.1	14.9	97.0	38.4	13.3	51.3	4.8
1999	28.1	13.4	85.5	33.9	10.2	57.7	5.3
2000	27.6	14.1	84.2	34.2	17.7	42.1	3.4

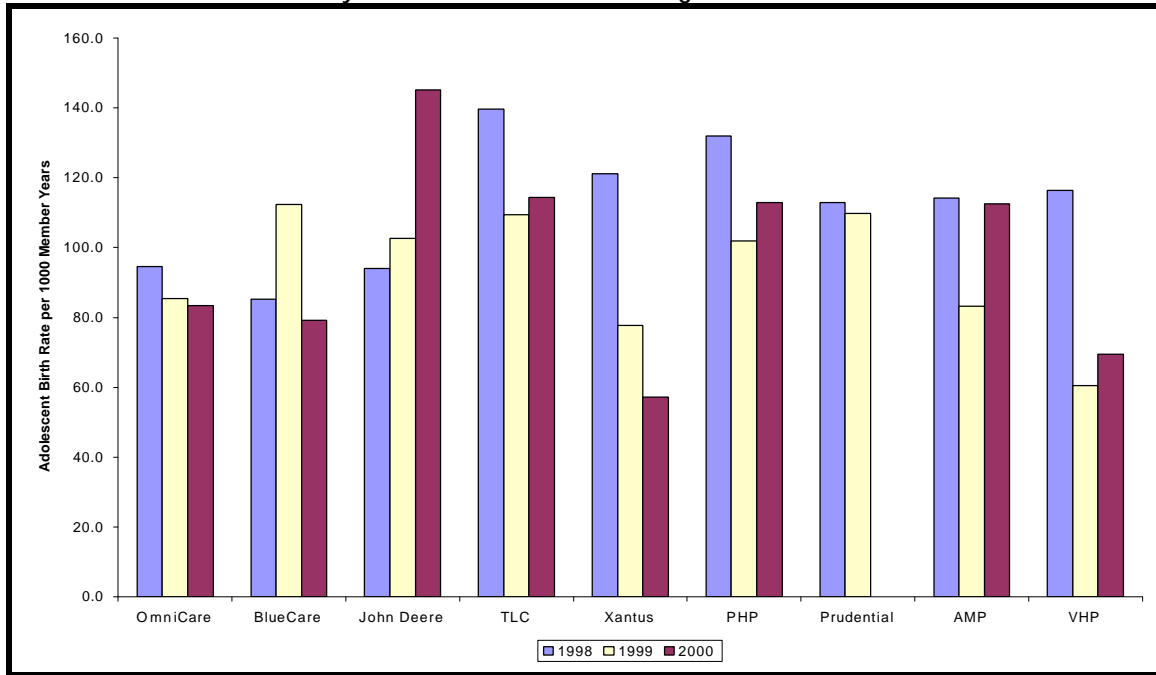
**Table 3.10**  
**Adolescent Birth Rate (Age 10 to 17) by Year, Race, and TennCare Status, 1993 - 1997**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	15.5	3.1	68.9	n/a	2.4	74.3	n/a
1995	16.4	3.5	57.0	14.7	2.6	57.3	12.0
1996	16.4	4.6	56.5	15.2	2.4	56.6	12.3
1997	15.6	3.7	52.8	13.9	2.6	53.2	11.5
Year	All Groups	Race: Black			Race: Other		
1993	15.5	9.3	62.9	n/a	1.8	34.5	n/a
1995	16.4	11.2	56.8	25.6	2.2	43.1	4.4
1996	16.4	10.4	55.8	28.3	6.8	84.4	9.8
1997	15.6	10.4	51.8	24.5	5.9	74.7	8.1

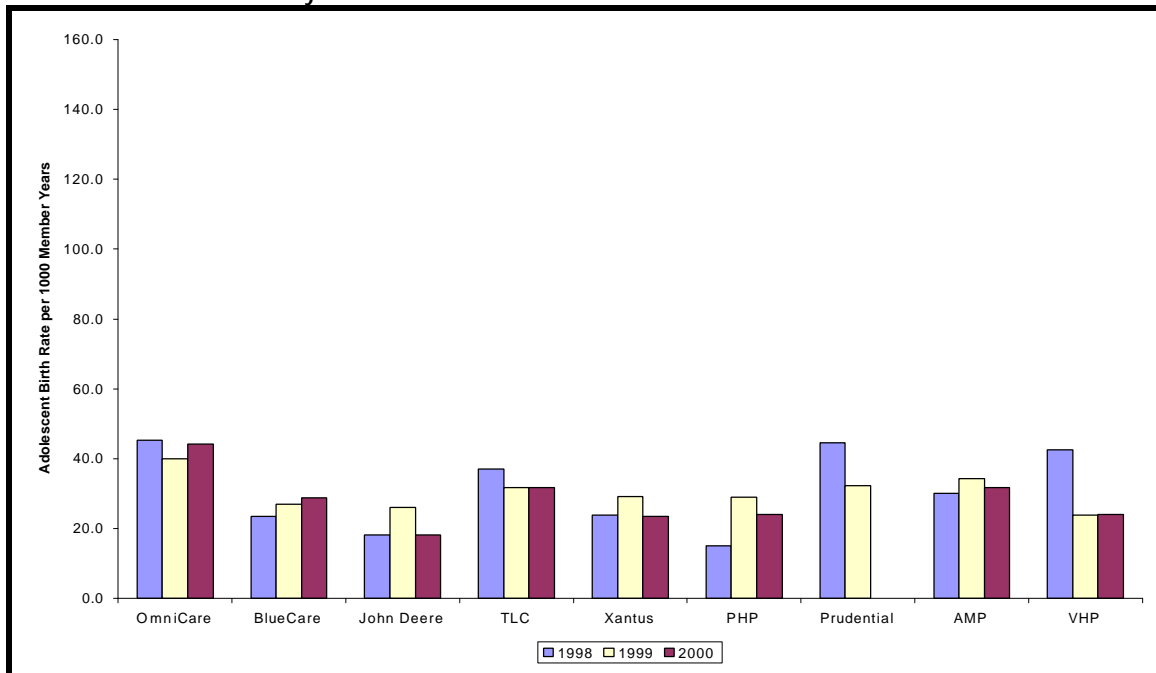
**Figure 3.13**  
**Adolescent Birth Rate per 1000 Female Member Years Age 12 through 18**  
**by MCO and Eligibility Category, 2000**



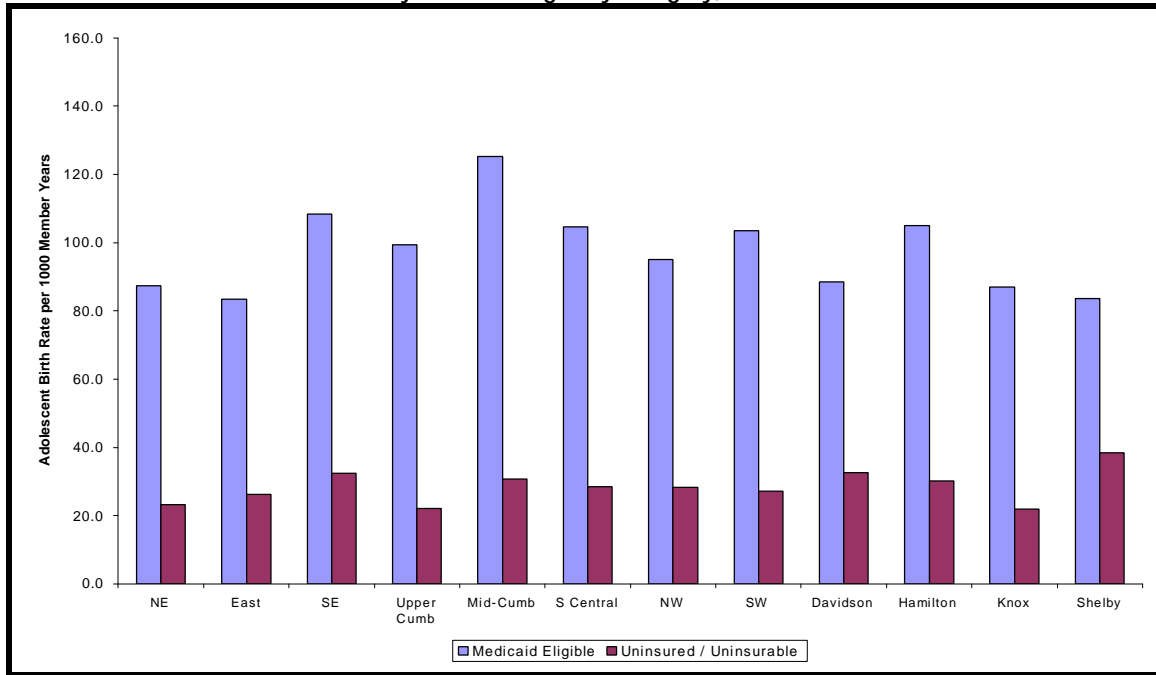
**Figure 3.14**  
**Adolescent Birth Rate per 1000 Female Member Years Age 12 though 18**  
**by MCO and Year for Medicaid Eligible Enrollees**



**Figure 3.15**  
**Adolescent Birth Rate per 1000 Female Member Years Age 12 though 18**  
**by MCO and Year for Uninsured / Uninsurable Enrollees**



**Figure 3.16**  
**Adolescent Birth Rate per 1000 Female Member Years Age 12 though 18**  
**by CSA and Eligibility Category, 2000**



**Figure 3.17**  
**Adolescent Birth Rate per 1000 Female Member Years Age 12 though 18**  
**by CSA and Year for Medicaid Eligible Enrollees**

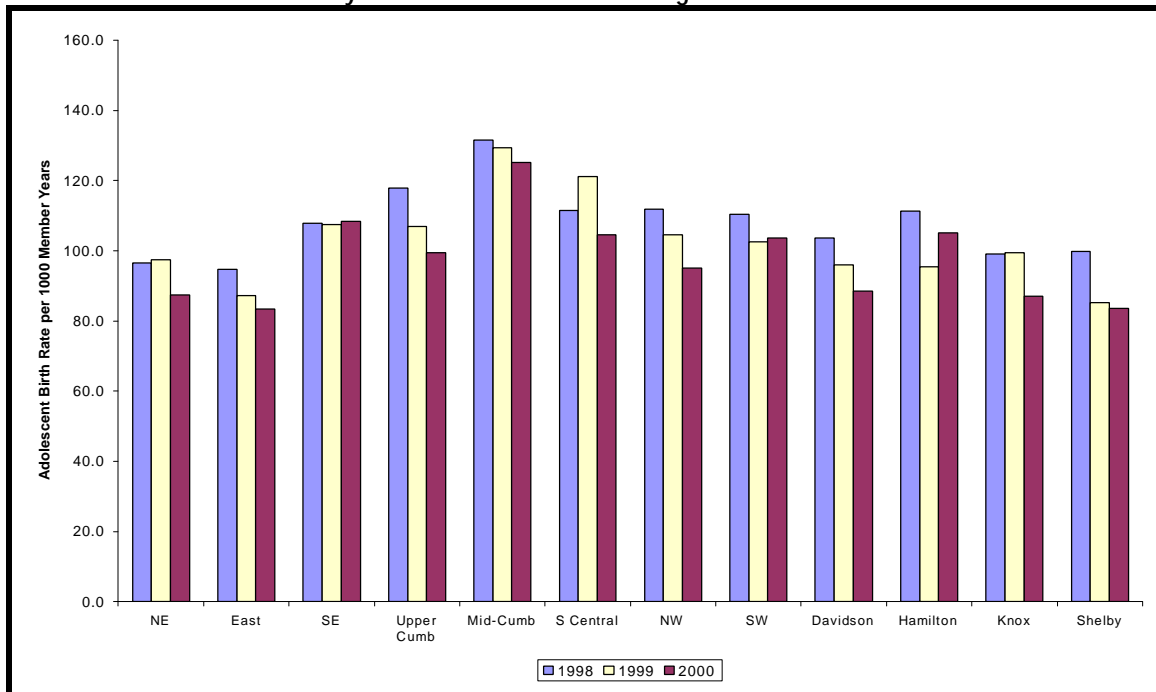
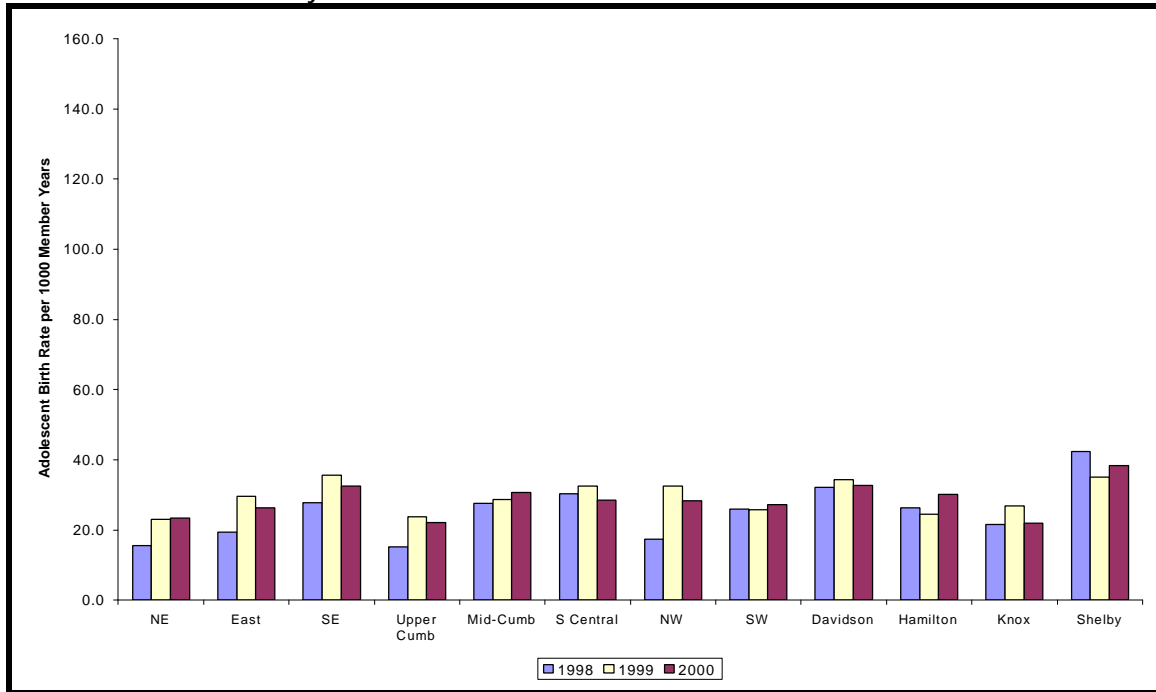




Figure 3.18  
Adolescent Birth Rate per 1000 Female Member Years Age 12 though 18  
by CSA and Year for Uninsured / Uninsurable Enrollees



## C-Section Percentage

The C-section percentage is the percent of live births that were delivered using a C-section procedure. These percentages are shown by year, race and Medicaid / TennCare status in Table 3.11. This table reveals that the percentage of C-sections is increasing over time for all groups, with the lowest percentage for Medicaid eligible enrollees. The patterns are similar across racial groups.

Figure 3.19 gives the C-section percentages by managed care organization and eligibility category in 2000. This figure shows that the highest percentage is among the Medicaid eligible at VHP and the uninsured / uninsurable at TLC. Contrary to most MCOs, Medicaid eligible enrollees of John Deere and VHP were more likely than uninsured / uninsurable enrollees to have a c-section delivery, although the results are based on relatively small numbers of births and, consequently, are subject to more variability. C-section percentages for the two groups were identical in 2000 for Access Med Plus enrollees and similar for PHP enrollees.

Rates for Medicaid eligible enrollees are shown in Figure 3.20 and for uninsured / uninsurable enrollees in Figure 3.21. All MCOs except OmniCare show rates exceeding the 1993 rate for Medicaid enrollees. The rates for the uninsured / uninsurable are similar, with the exception of the 1999 and 2000 rates for VHP, which were below the 1993 Medicaid rate. The VHP rate for 1998 is not shown on Figure 3.21 because the number of births is so small the results would be unreliable. Similar information is shown for the community service areas in Figures 3.22 through 3.25.

**Table 3.11**  
**Percentage of C-Sections by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	22.5	24.2	20.5	n/a	24.1	21.8	n/a
1995	21.5	22.9	19.9	20.5	22.7	20.4	20.7
1996	22.0	23.7	20.1	22.2	23.4	20.5	22.3
1997	22.2	23.8	20.3	21.4	23.4	20.6	20.6
1998	22.8	24.1	21.3	23.4	23.7	21.4	23.6
1999	24.4	25.9	22.7	22.6	25.7	23.1	22.5
2000	25.2	26.9	23.2	23.8	26.5	23.4	23.7
Year	All Groups	Race: Black			Race: Other		
1993	22.5	25.3	18.1	n/a	20.9	13.7	n/a
1995	21.5	25.2	19.1	20.5	18.2	14.2	10.8
1996	22.0	26.3	19.6	22.3	19.5	14.5	19.0
1997	22.2	26.9	19.9	24.2	22.8	15.2	25.6
1998	22.8	28.1	21.2	23.5	20.2	17.9	8.2
1999	24.4	29.2	22.2	23.6	20.0	19.8	13.4
2000	25.2	30.9	23.0	24.2	22.3	18.3	23.0

Figure 3.19  
Percentage of C-Section Deliveries  
by MCO and Eligibility Category, 2000

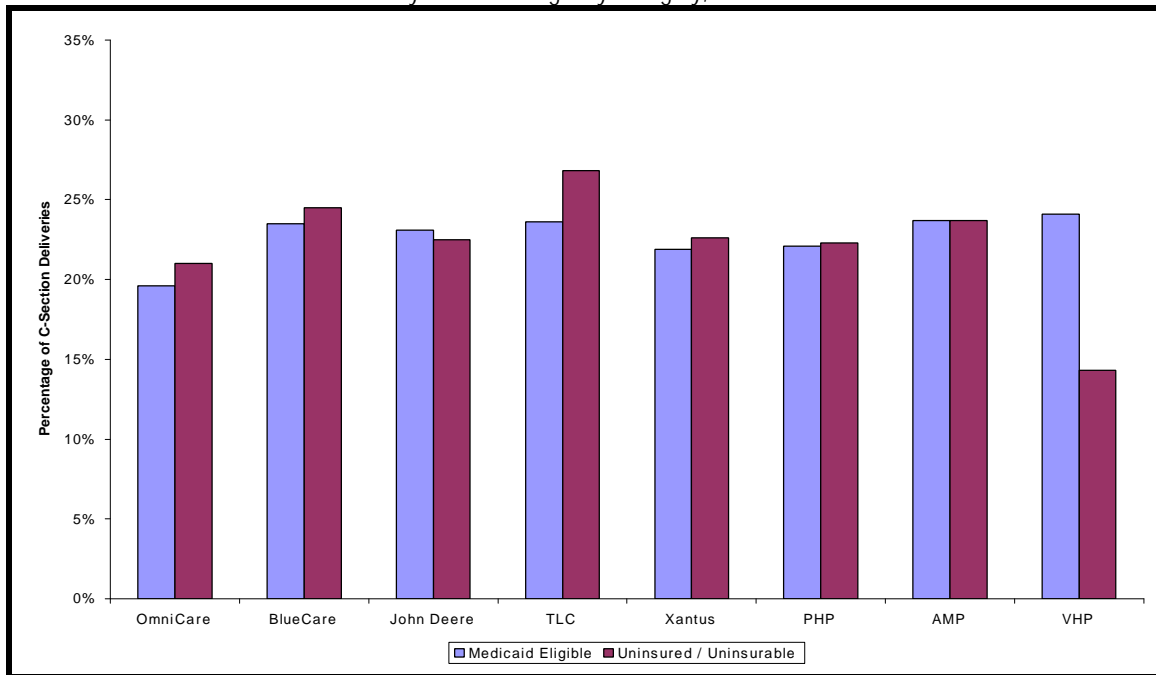
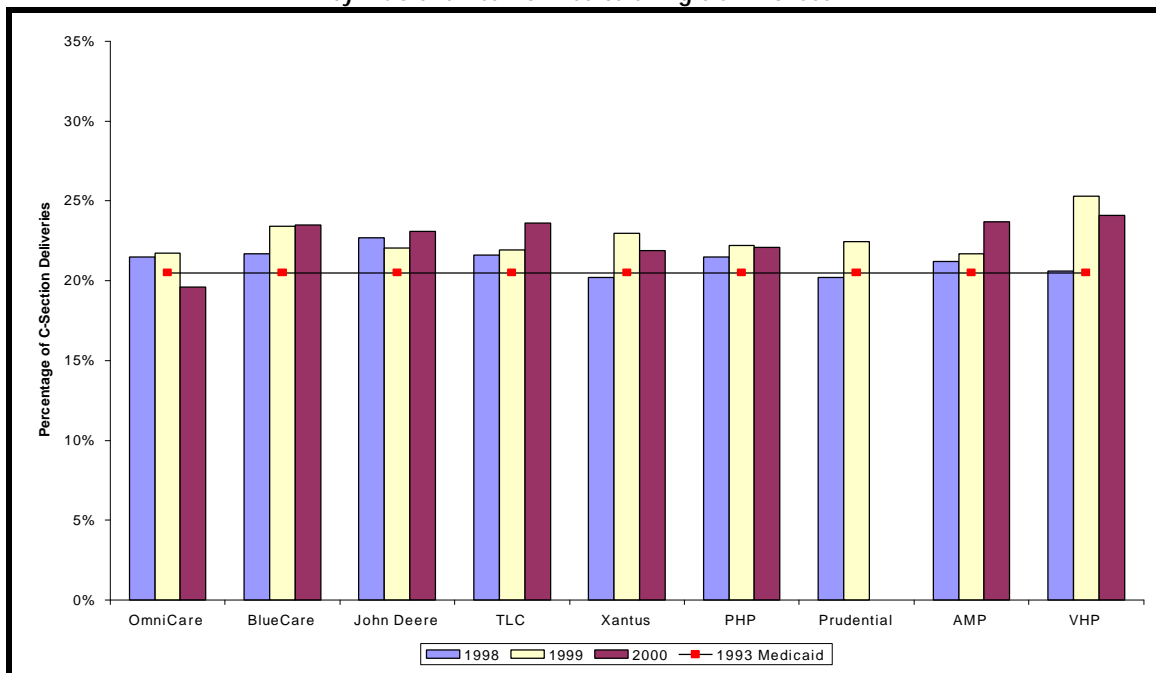
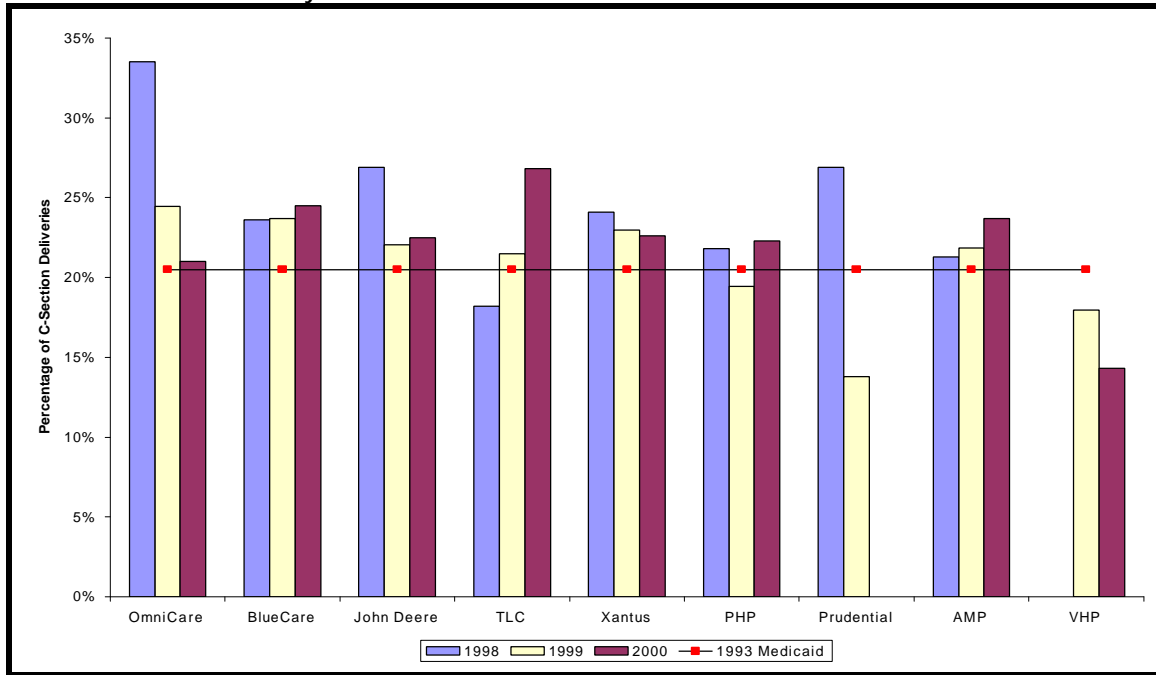


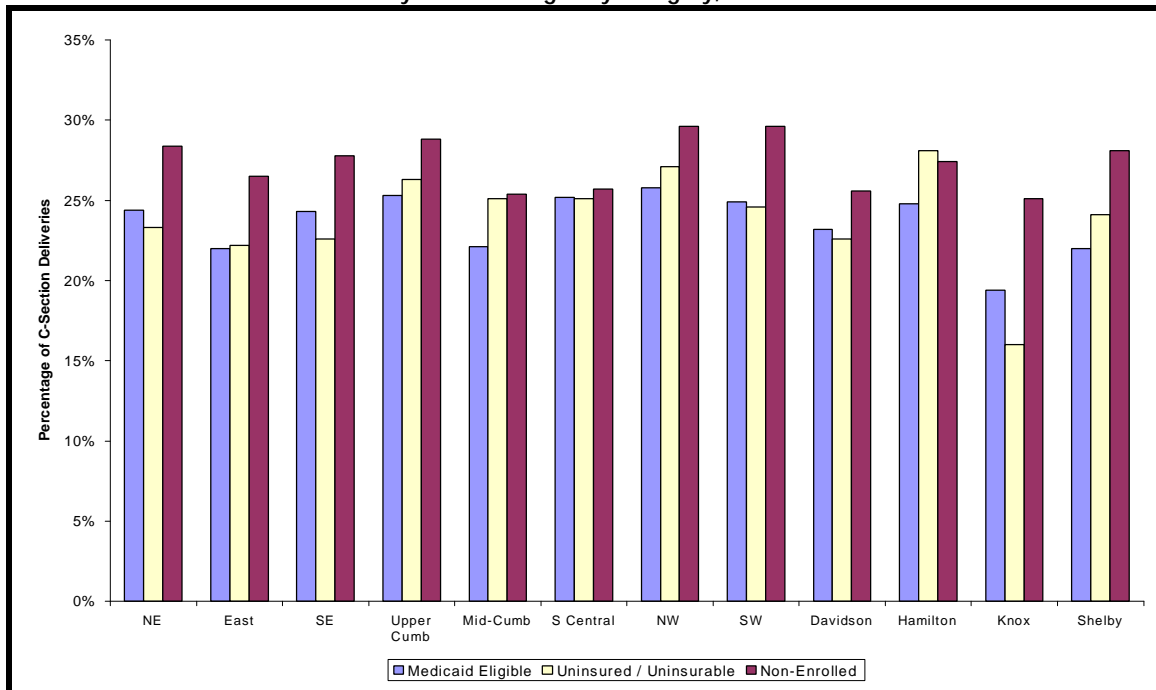
Figure 3.20  
Percentage of C-Section Deliveries  
by MCO and Year for Medicaid Eligible Enrollees



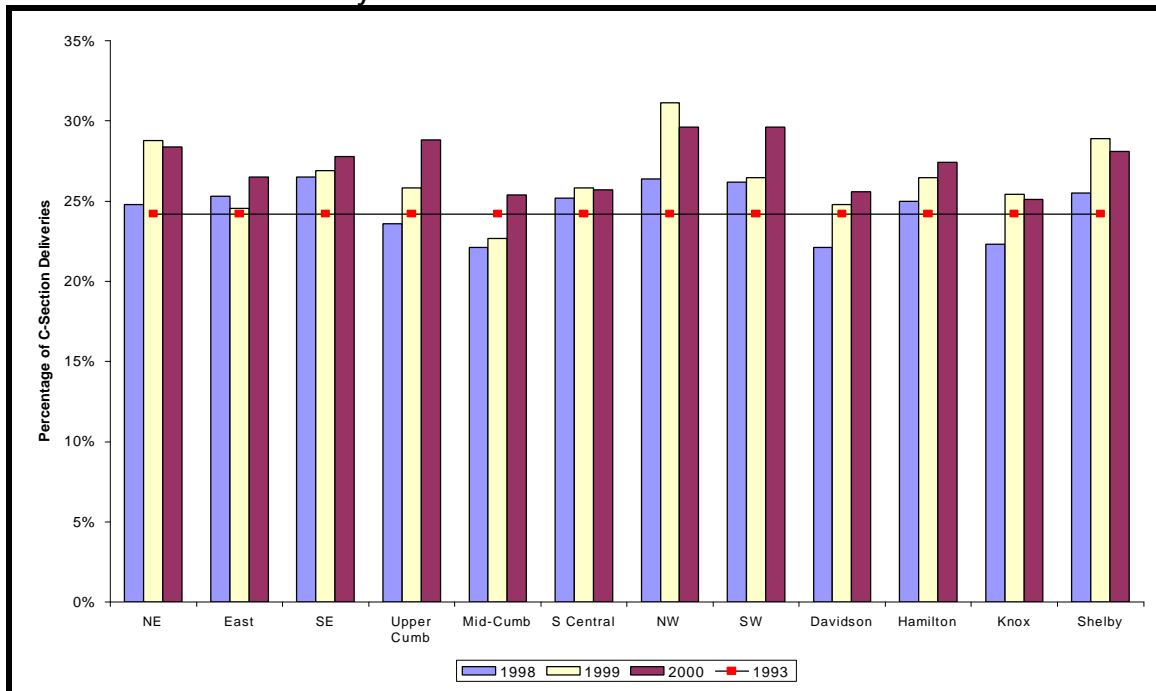
**Figure 3.21**  
Percentage of C-Section Deliveries  
by MCO and Year for Uninsured / Uninsurable Enrollees



**Figure 3.22**  
Percentage of C-Section Deliveries  
by CSA and Eligibility Category, 2000



**Figure 3.23**  
**Percentage of C-Section Deliveries**  
**by CSA and Year for Non-Enrolled Individuals**



**Figure 3.24**  
**Percentage of C-Section Deliveries**  
**by CSA and Year for Medicaid Eligible Enrollees**

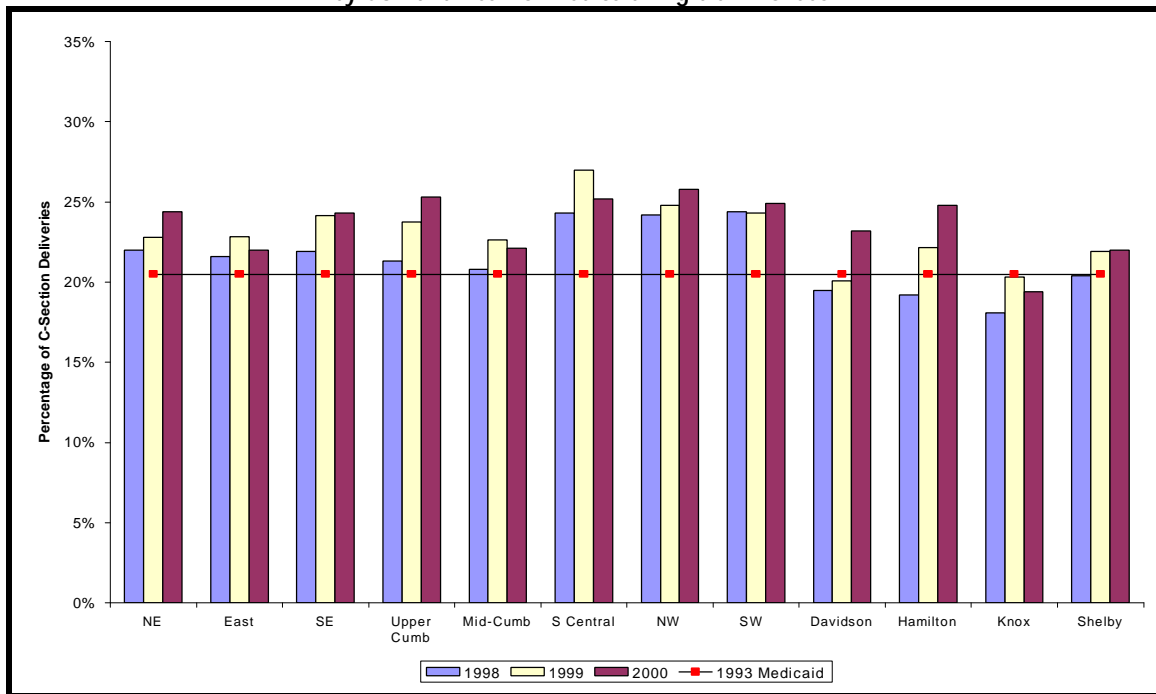
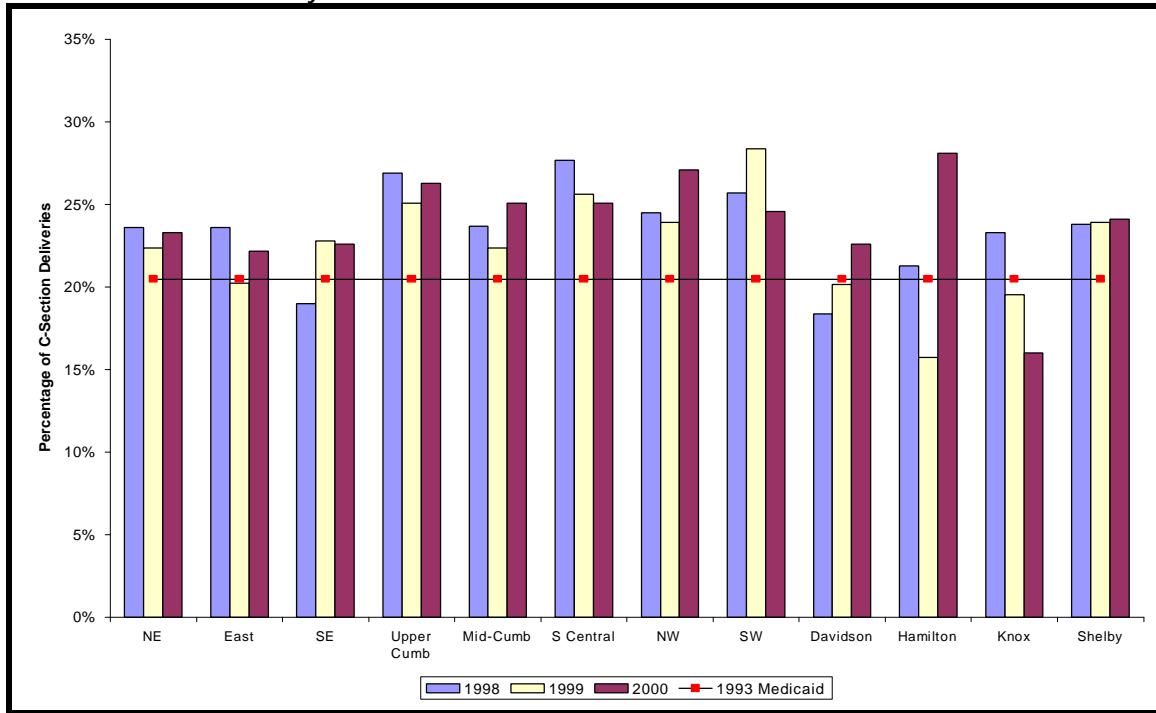


Figure 3.25  
Percentage of C-Section Deliveries  
by CSA and Year for Uninsured / Uninsurable Enrollees



## Median Interval Between Deliveries

The median interval between deliveries is a measure of the length of time a woman waits to have another child. It is either the number of months since the woman's last live birth or since the woman's last termination. The distribution of these data is badly skewed with some women waiting years before having another child. Consequently, this report is showing the median (midpoint of the distribution) interval rather than the average interval between deliveries. This statistic is a more accurate reflection of the data than the average would be.

Median intervals broken down by year, race, and Medicaid / TennCare status are shown in Table 3.12. After remaining the same (33 months) every year from 1993 to 1999, the median interval for all groups decreased to 32 months in 2000. This decrease is reflected in both TennCare groups as well as the non-enrolled group. There are race differences, however. While the decrease is evident across the groups for the white population, the median interval for black women decreased only for non-enrolled individuals. The median interval for black Medicaid eligible enrollees remained the same from 1999 to 2000 and increased for the same time period for uninsured / uninsurable enrollees.

Figure 3.26 reveals the median intervals by managed care organization and TennCare status. The median interval for most managed care organizations increased or remained the same from 1999 to 2000. The median interval decreased only for OmniCare Medicaid eligible enrollees, both BlueCare Medicaid eligible and uninsured / uninsurable enrollees, and John Deere uninsured / uninsurable enrollees. The longest intervals belong to the uninsured / uninsurable in VHP. Among Medicaid eligible enrollees, those in VHP and PHP show the longest intervals. Similar data across time are shown in Figures 3.27 and 3.28 and for community service areas in Figures 3.29 through 3.32.

Table 3.12  
Median Interval Between Deliveries by Year, Race, and TennCare Status

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	33	36	28	n/a	36	29	n/a
1995	33	37	29	37	36	30	38
1996	33	36	30	34	35	31	33
1997	33	36	30	33	35	31	34
1998	33	36	30	32	36	31	33
1999	33	36	30	30	35	31	30
2000	32	35	29	29	34	30	29
Year	All Groups	Race: Black			Race: Other		
1993	33	38	26	n/a	37	27	n/a
1995	33	41	27	35	38	30	28
1996	33	40	28	39	38	27	35.5
1997	33	42	28	30	36	30	51
1998	33	41	28	30	34	34	28
1999	33	42	28	29	39	34	26.5
2000	32	40	28	31	38	31	34

Figure 3.26  
Median Delivery Interval  
by MCO and Eligibility Category, 2000

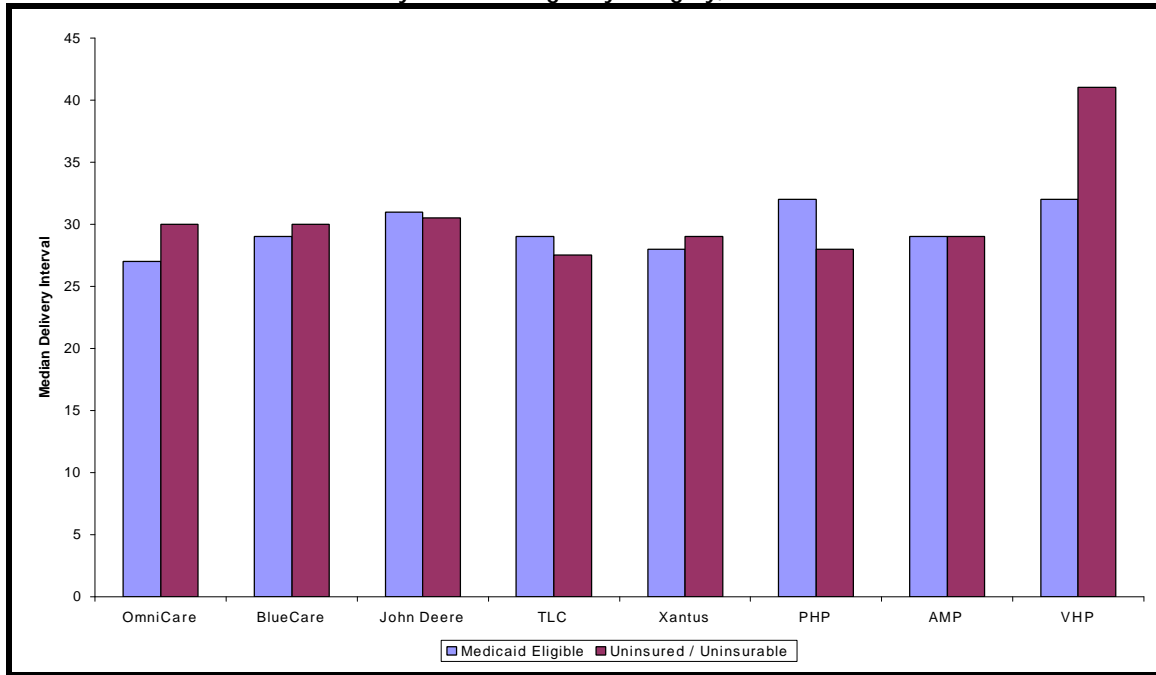


Figure 3.27  
Median Delivery Interval  
by MCO and Year for Medicaid Eligible Enrollees

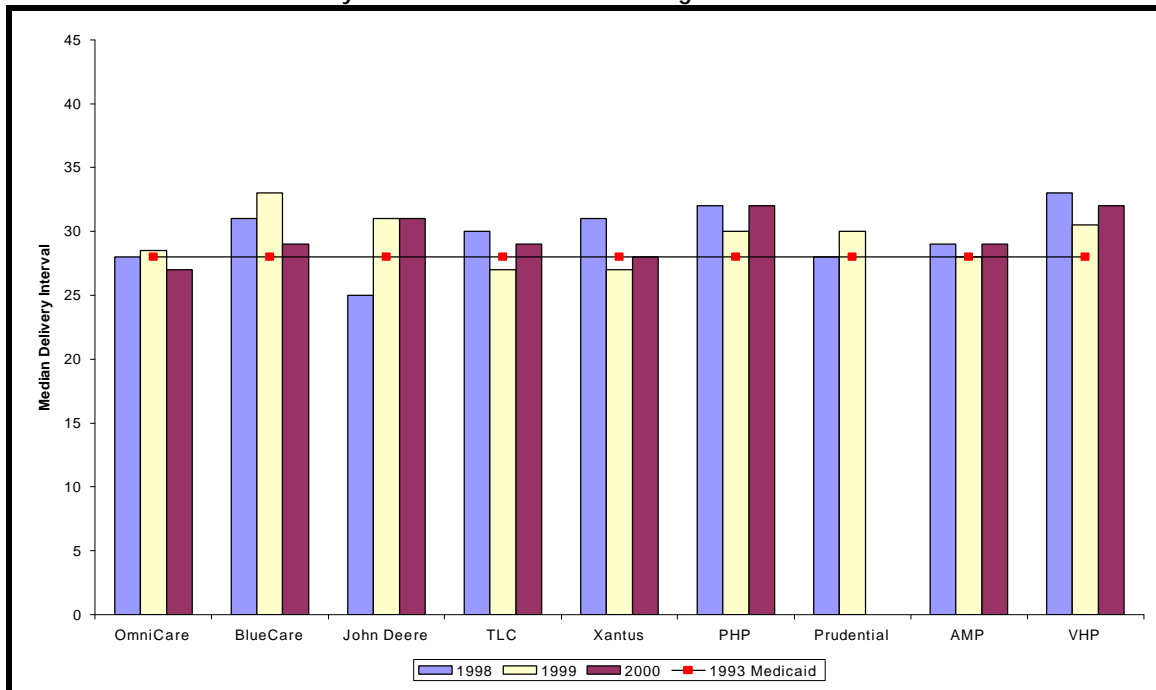




Figure 3.28  
Median Delivery Interval  
by MCO and Year for Uninsured / Uninsurable Enrollees

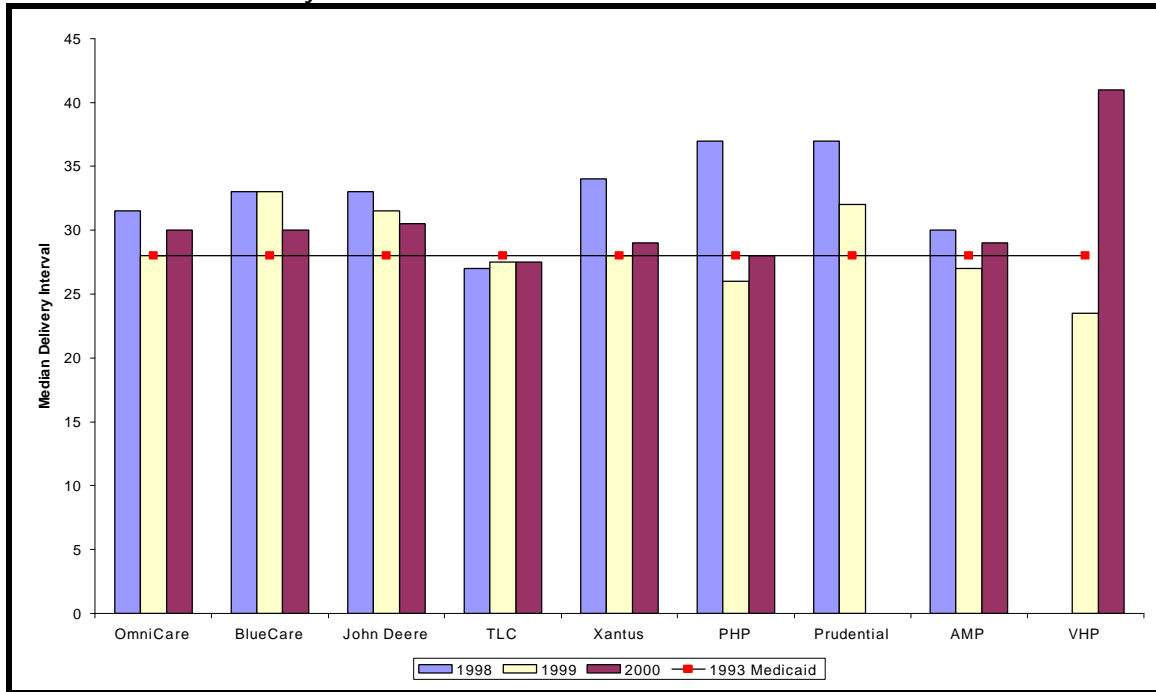


Figure 3.29  
Median Delivery Interval  
by CSA and Eligibility Category, 2000

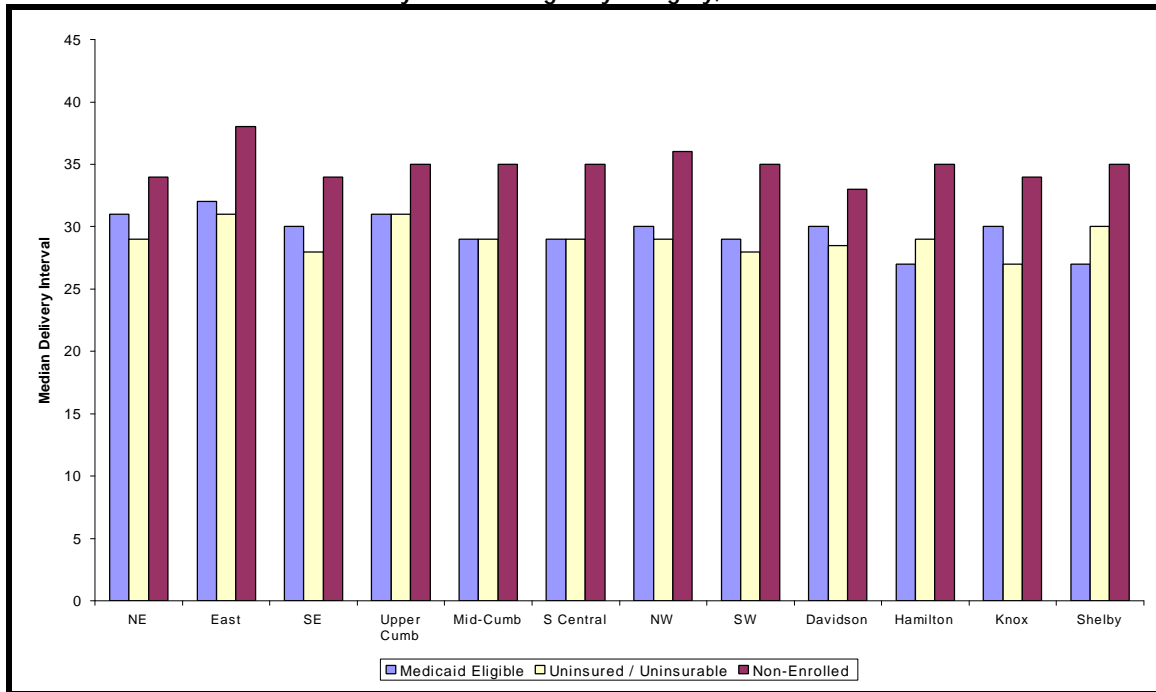


Figure 3.30  
Median Delivery Interval  
by CSA and Year for Non-Enrolled Individuals

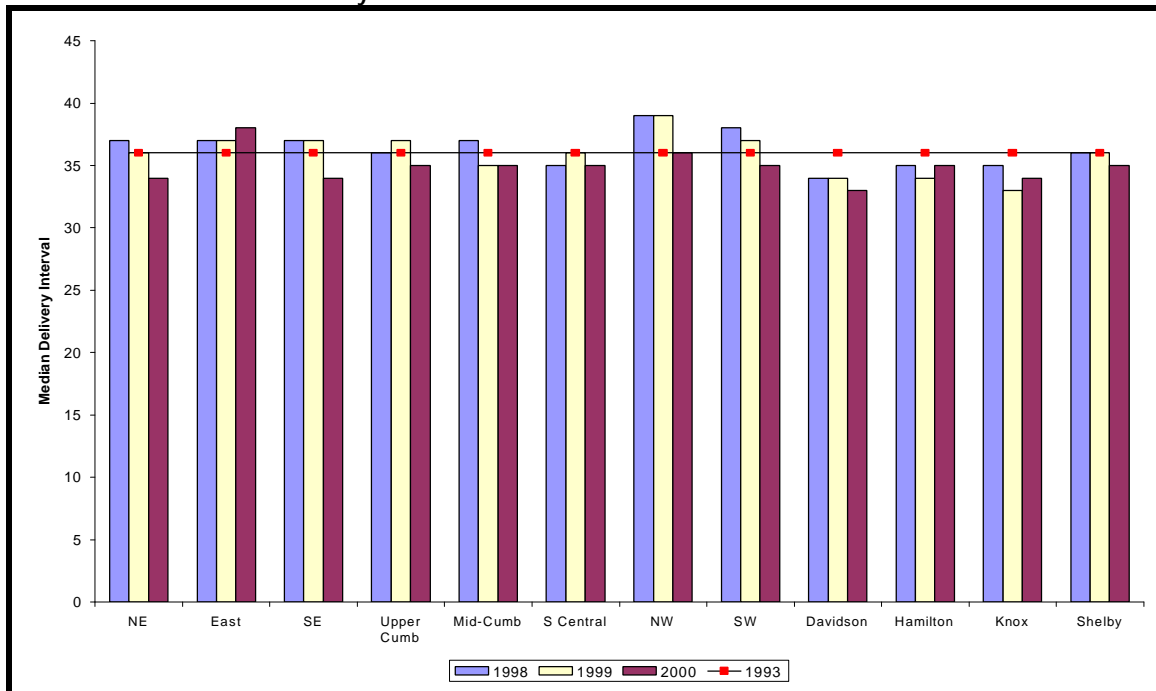


Figure 3.31  
Median Delivery Interval  
by CSA and Year for Medicaid Eligible Enrollees

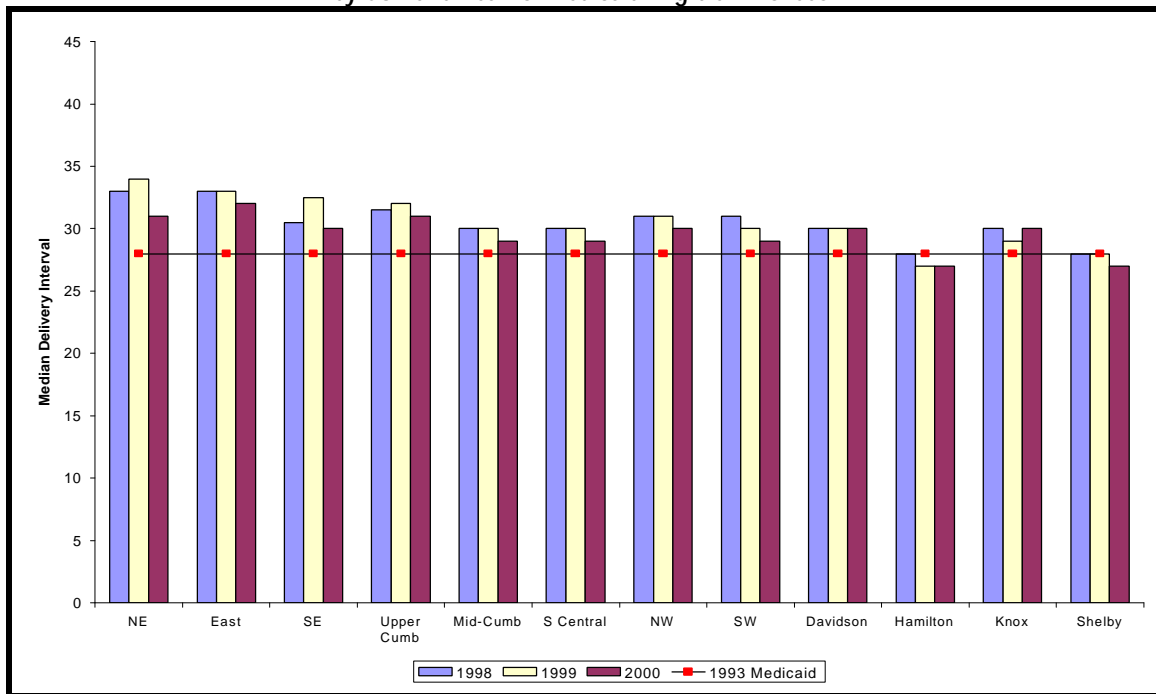
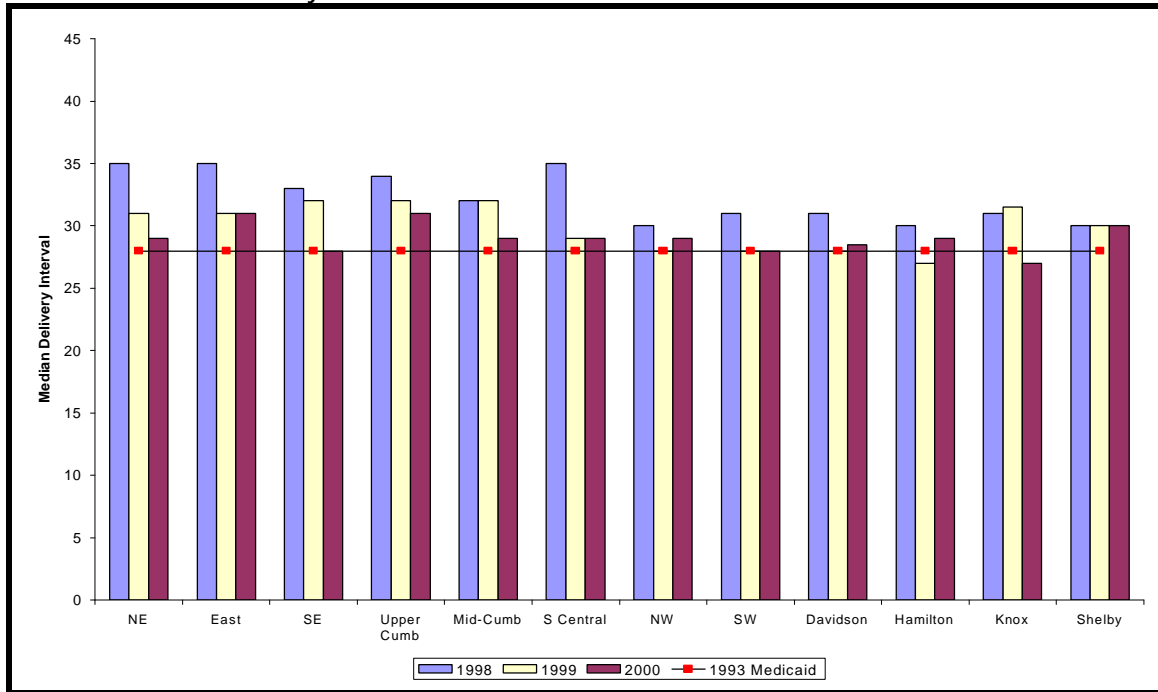


Figure 3.32  
Median Delivery Interval  
by CSA and Year for Uninsured / Uninsurable Enrollees



## Infant Mortality Rate

The infant mortality rate is calculated by dividing the number of infants within a given year who died prior to attaining one year of age by the number of births within the same year. Table 3.13 gives infant mortality rates by year, race, and Medicaid / TennCare status. After decreasing substantially from 1993 through 1999, the rate jumped significantly to 8.9 deaths per 1000 births in 2000, up from 8.0 per 1000 in 1998 and 1999. This increase is attributable to increases for both the non-enrolled and Medicaid eligible groups, while the rate for the uninsured / uninsurable decreased over the same period of time. For non-enrollees, the infant mortality rate increased for both white and black racial groups, while the increase for Medicaid eligible enrollees occurred for only the black and other racial groups.

Infant mortality rates broken down by managed care organization and eligibility category in 2000 are shown in Figure 3.33. Rates are not shown in several instances because they are based on zero or so few deaths that they are unreliable. For the MCOs with both groups displayed, only Access Med Plus had a rate for the uninsured / uninsurable population that is higher than that for the Medicaid eligible population. The highest rates were for the Medicaid eligible enrollees of OmniCare and TLC.

Figures 3.34 and 3.35 show infant mortality rates broken down by year and MCO for Medicaid eligible enrollees and the uninsured / uninsurable, respectively. Only rates for uninsured / uninsurable enrollees of BlueCare and Xantus have progressively decreased over the reported time period. In addition, both PHP groups and the uninsured / uninsurable at Access Med Plus have lower 2000 rates than in 1998. On Figure 3.35, rates for OmniCare, John Deere, and VHP were based on so few deaths that they were too unreliable to report. Similar data are shown for the CSAs in Figures 3.36 through 3.39.

Table 3.13  
Infant Mortality Rate per 1000 Live Births by Year, Race, and TennCare Status

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	9.7	7.0	12.7	NA	5.1	9.1	NA
1995	9.2	6.4	12.5	9.5	5.2	9.2	8.5
1996	8.4	6.9	10.1	7.7	5.8	8.0	4.9
1997	8.4	6.0	10.6	12.9	5.0	8.2	8.2
1998	8.0	6.0	10.1	10.3	4.9	8.1	7.2
1999	8.0	6.4	9.7	9.0	5.3	8.1	7.4
2000	8.9	7.5	10.9	7.9	6.2	8.0	6.0
Year	All Groups	Race: Black			Race: Other		
1993	9.7	20.7	19.7	NA	3.4	20.1	NA
1995	9.2	15.9	18.6	14.4	2.9	15.1	0.0
1996	8.4	15.8	14.3	19.2	3.5	4.1	17.2
1997	8.4	14.3	15.3	31.7	5.6	0.0	25.6
1998	8.0	14.2	14.1	22.3	7.6	2.9	0.0
1999	8.0	14.7	13.0	16.1	9.8	5.4	0.0
2000	8.9	18.4	16.3	16.1	4.9	7.1	0.0

Figure 3.33  
 Infant Mortality Rate per 1000 Births  
 by MCO and Eligibility Category, 2000

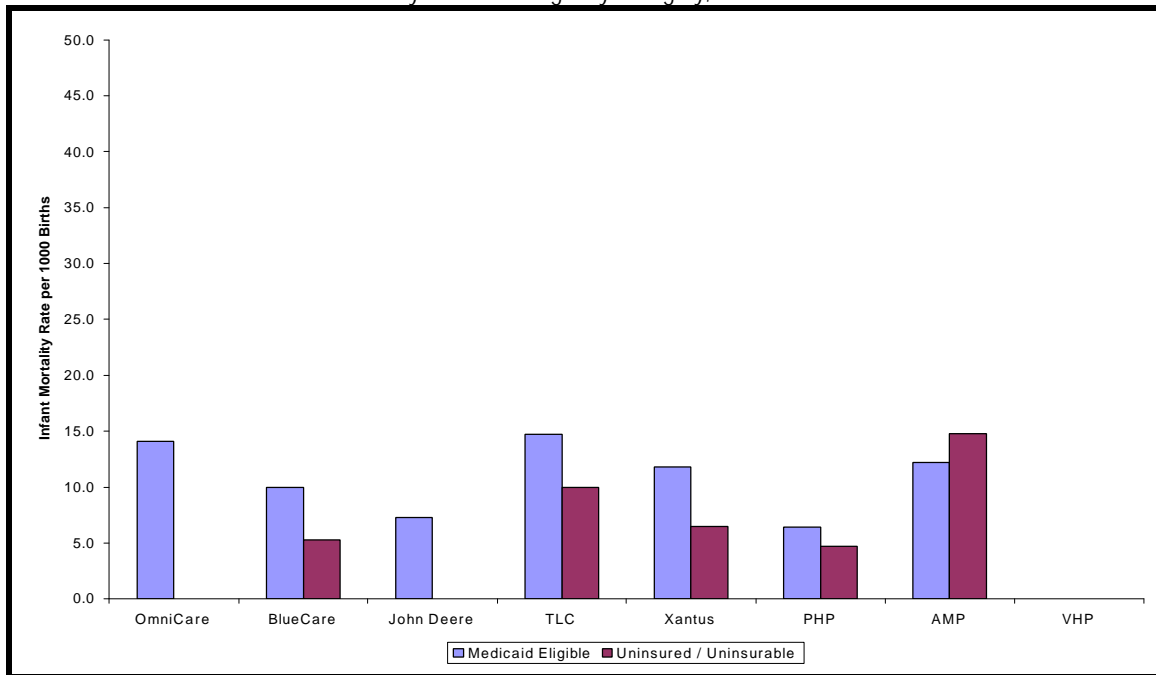


Figure 3.34  
 Infant Mortality Rate per 1000 Births  
 by MCO and Year for Medicaid Eligible Enrollees

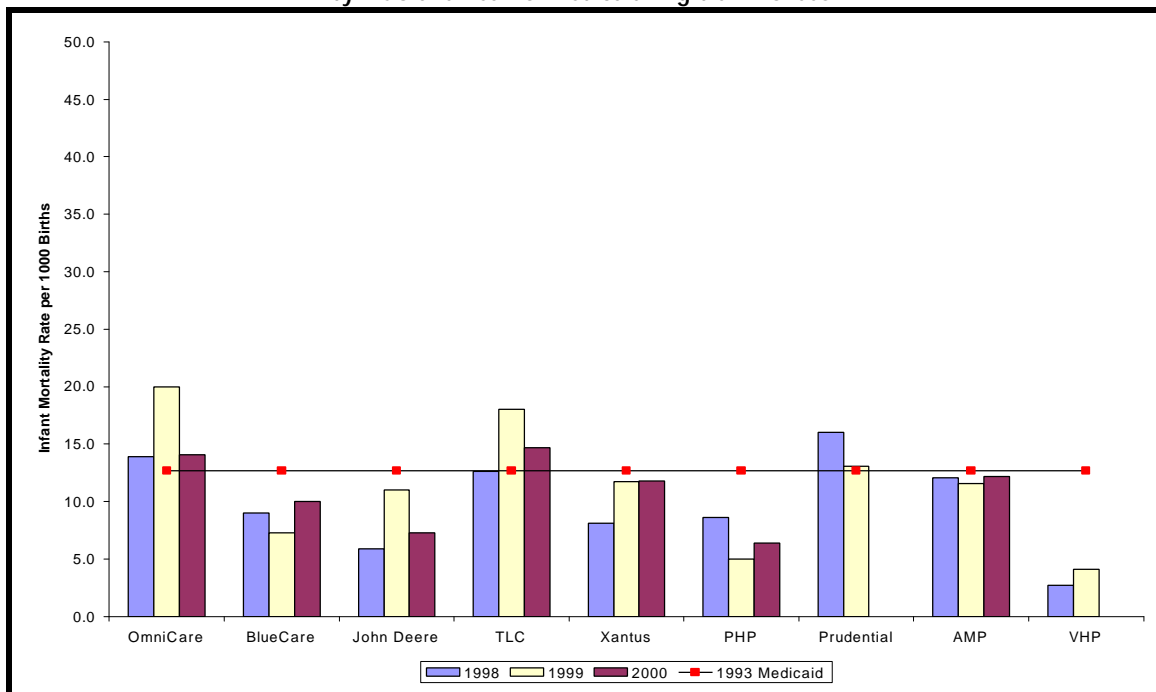


Figure 3.35  
 Infant Mortality Rate per 1000 Births  
 by MCO and Year for Uninsured / Uninsurable Enrollees

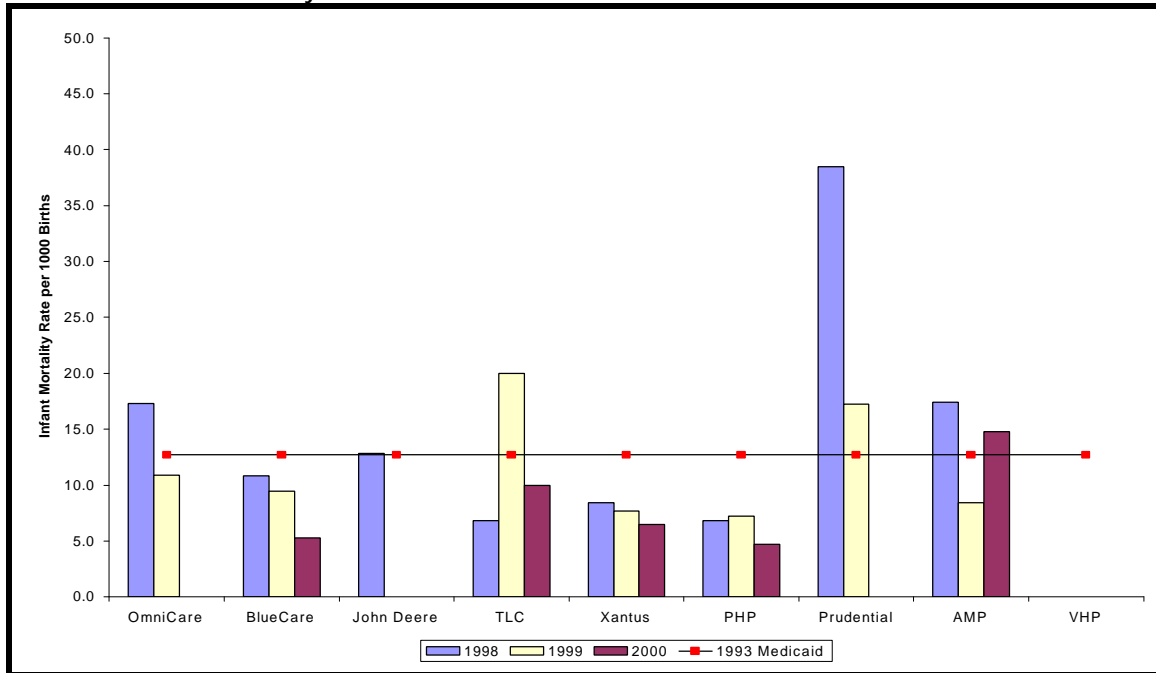


Figure 3.36  
 Infant Mortality Rate per 1000 Births  
 by CSA and Eligibility Category, 2000

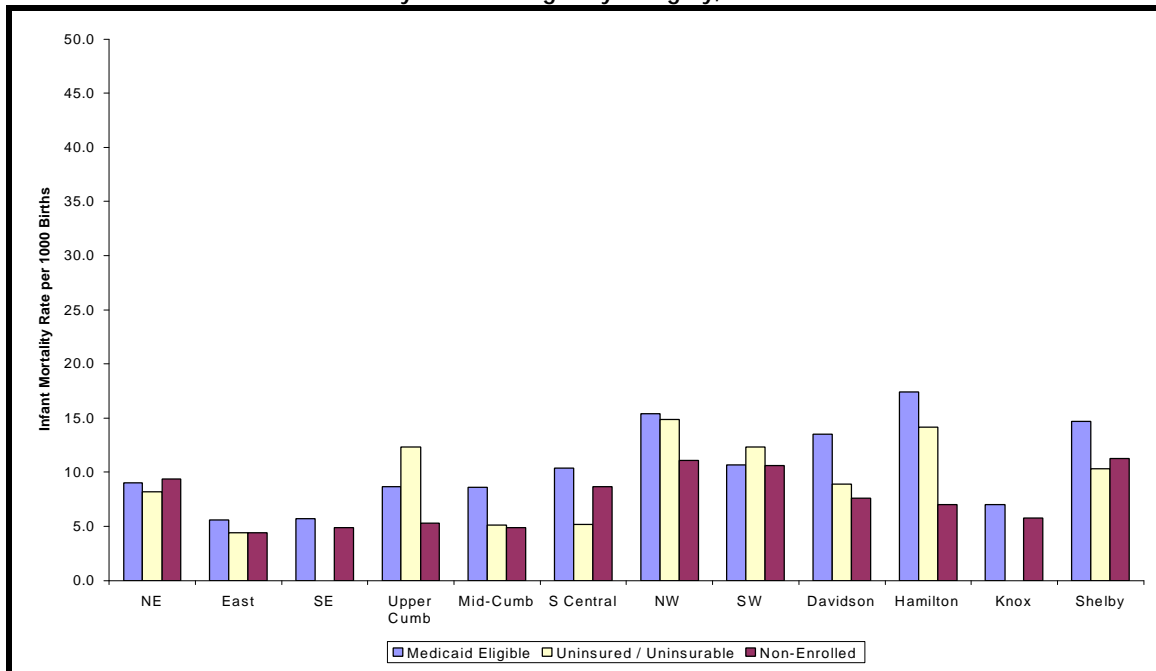


Figure 3.37  
 Infant Mortality Rate per 1000 Births  
 by CSA and Year for Non-Enrolled Individuals

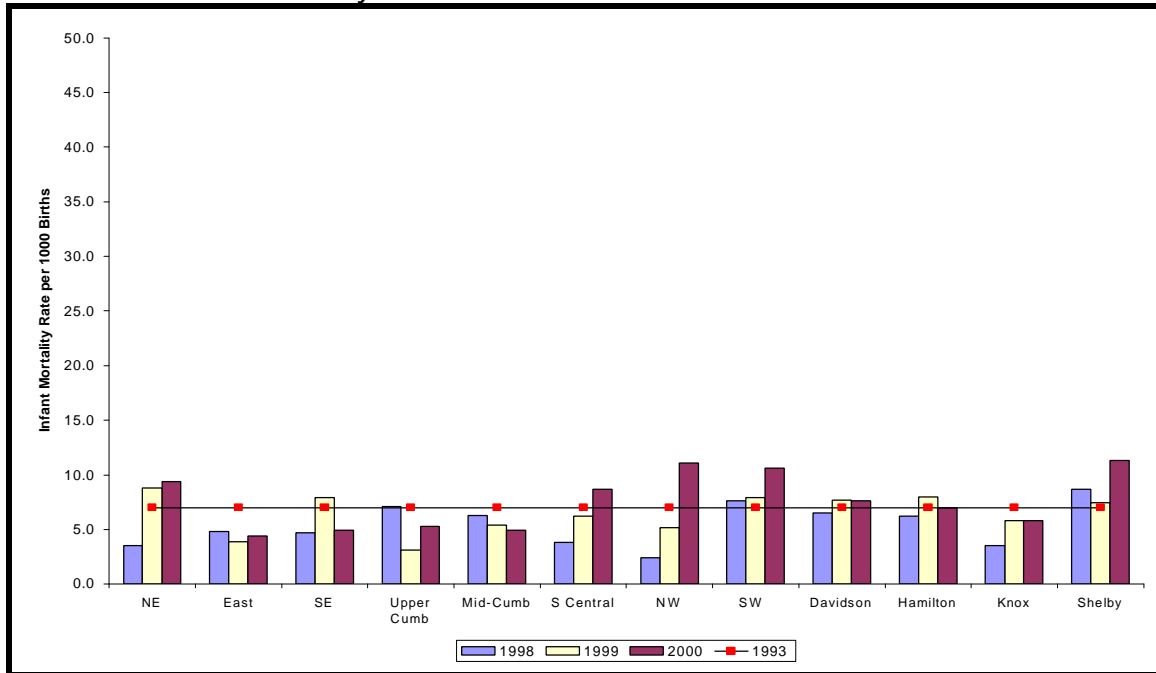


Figure 3.38  
 Infant Mortality Rate per 1000 Births  
 by CSA and Year for Medicaid Eligible Enrollees

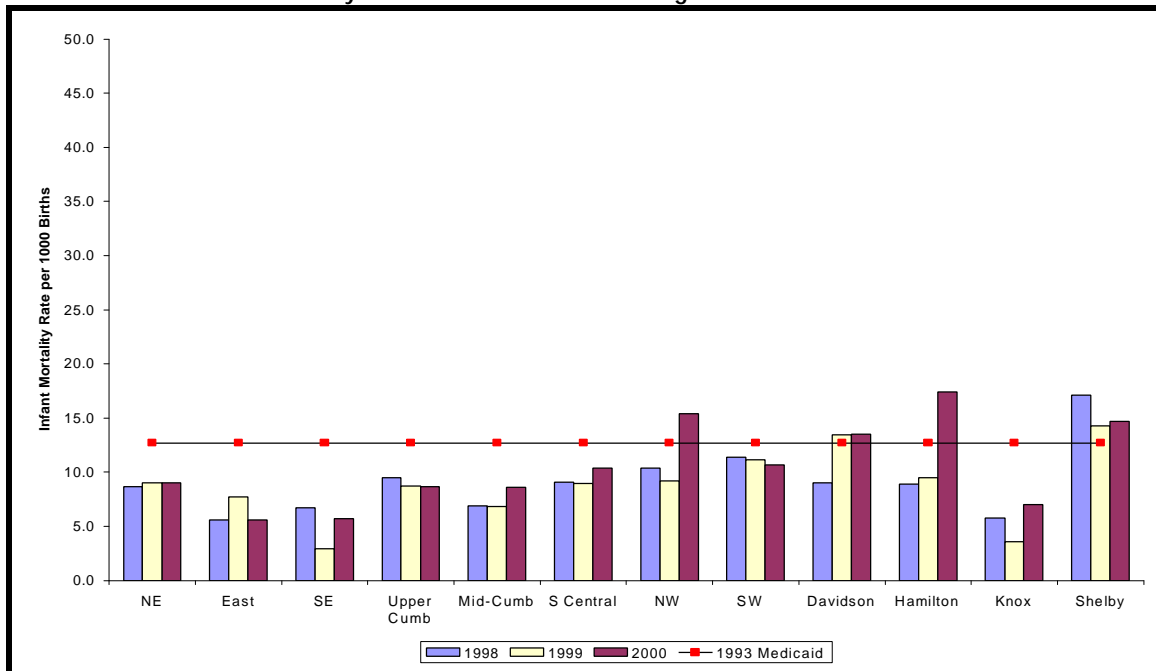
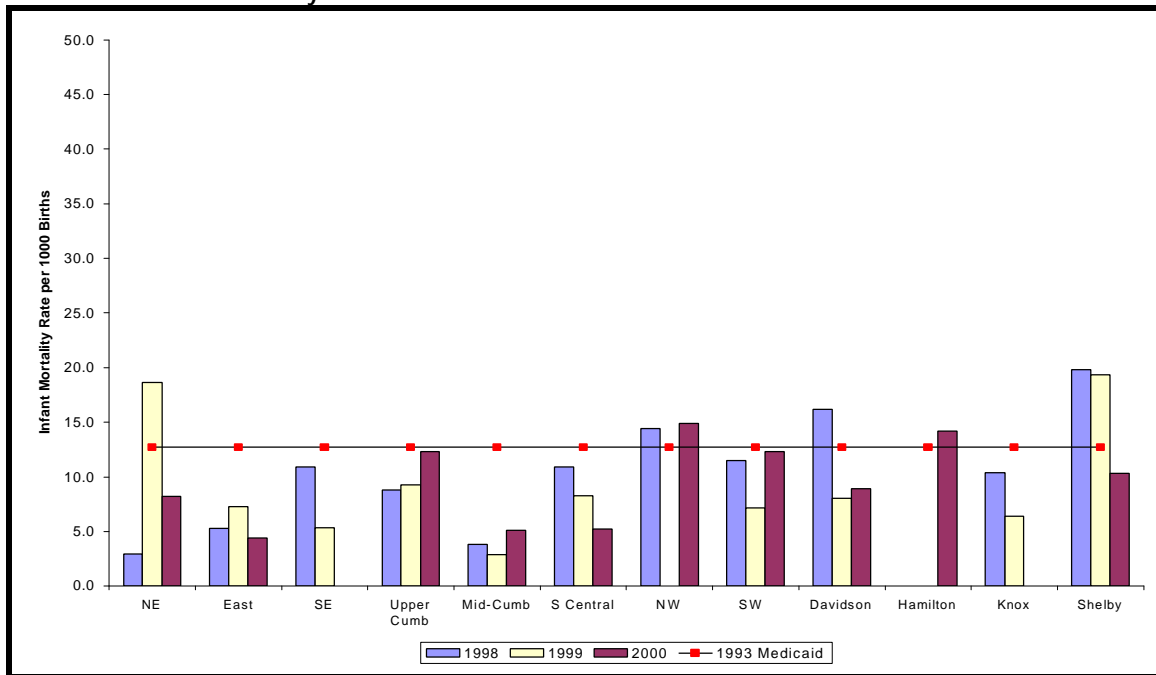


Figure 3.39  
Infant Mortality Rate per 1000 Births  
by CSA and Year for Uninsured / Uninsurable Enrollees





## Infant Case Fatality Rate

The infant case fatality rate is defined similarly to the infant mortality rate except a cohort determined by year of birth is used. This rate is the proportion of infants born within a given year who died before attaining one year of age. This rate more accurately reflects the care given to a specified group of women and their infants.

Infant case fatality rates broken down by year, race, and Medicaid / TennCare status are given in Table 3.14. This table reveals that the case fatality rate for all groups has decreased significantly from 1993 through 1999, with a slight increase in 1998. Much of this decrease occurs among Medicaid eligible enrollees. This is true for both white and black racial categories, although the decrease appears more substantial for blacks. In addition, the rates for blacks in the uninsured / uninsurable and non-enrolled groups dropped considerably over the reporting period as well.

Breakdowns by MCO are shown in Figures 3.40 through 3.42, and breakdowns by CSA are shown in Figures 3.43 through 3.46. The only managed care organizations with 1999 rates for Medicaid eligible enrollees above the 1993 statewide rate were OmniCare and TLC. Four MCOs had higher 1999 case fatality rates over their performance in 1997– OmniCare, John Deere, TLC, and Prudential. Among the community service areas, the 1999 rates for Medicaid eligible enrollees are above the 1993 rate only for enrollees in Davidson and Shelby County.

**Table 3.14**  
**Infant Case Fatality Rate by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	9.5	6.8	12.6	NA	5.0	9.2	NA
1994	9.2	6.5	12.4	8.6	5.4	8.5	5.7
1995	8.6	6.0	11.6	9.2	4.7	8.6	7.8
1996	8.6	6.9	10.5	8.7	5.7	8.3	5.7
1997	8.2	6.0	10.3	12.2	5.1	7.7	7.9
1998	8.6	7.7	9.5	10.6	6.2	8.1	7.6
1999	7.5	6.1	9.0	8.5	4.9	7.3	7.0
Year	All Groups	Race: Black			Race: Other		
1993	9.5	19.8	19.3	NA	1.7	12.0	NA
1994	9.2	16.3	20.1	24.6	0.0	6.3	--
1995	8.6	16.6	17.1	15.7	4.4	12.0	0.0
1996	8.6	16.6	14.9	20.9	2.3	4.1	17.2
1997	8.2	12.9	15.3	30.1	6.7	2.5	25.6
1998	8.6	18.7	12.5	22.3	6.5	0.0	0.0
1999	7.5	14.4	12.3	15.2	9.8	5.4	0.0

Figure 3.40  
 Infant Case Fatality Rate per 1000 Births  
 by MCO and Eligibility Category, 1999

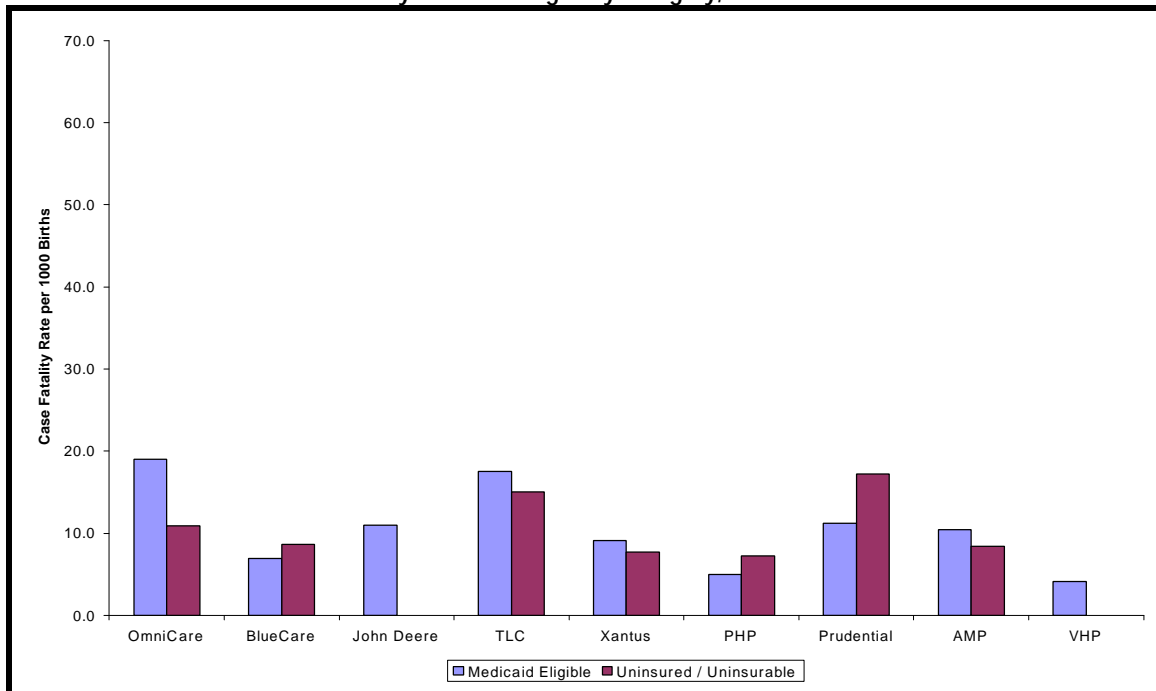


Figure 3.41  
 Infant Case Fatality Rate per 1000 Births  
 by MCO and Year for Medicaid Eligible Enrollees

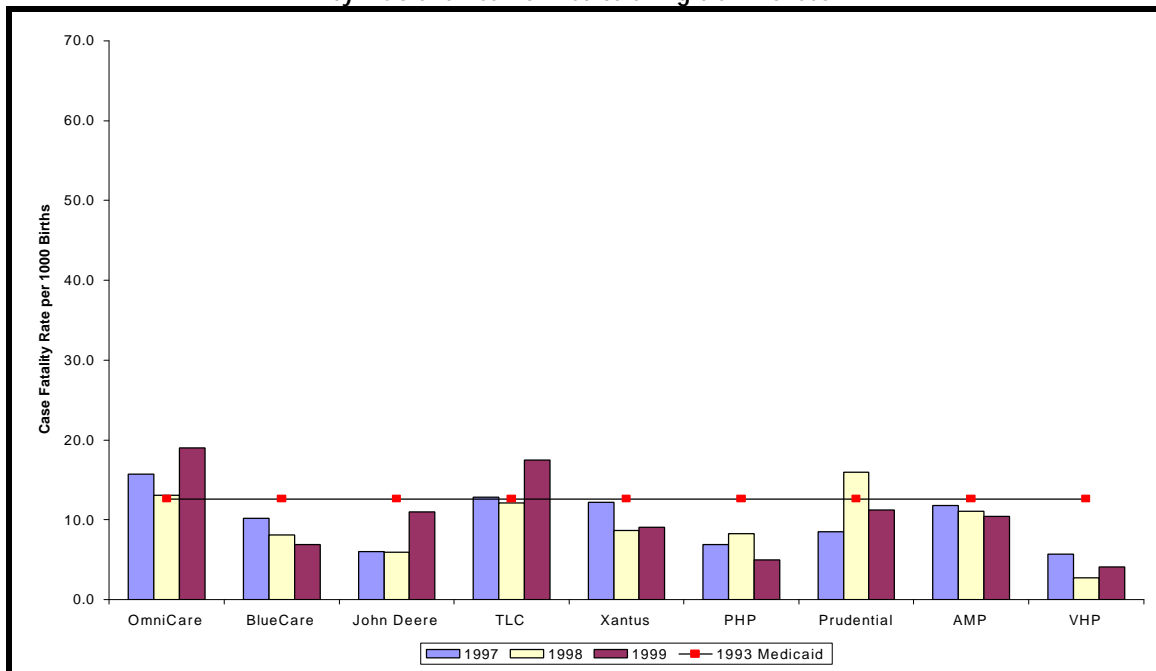


Figure 3.42  
 Infant Case Fatality Rate per 1000 Births  
 by MCO and Year for Uninsured / Uninsurable Enrollees

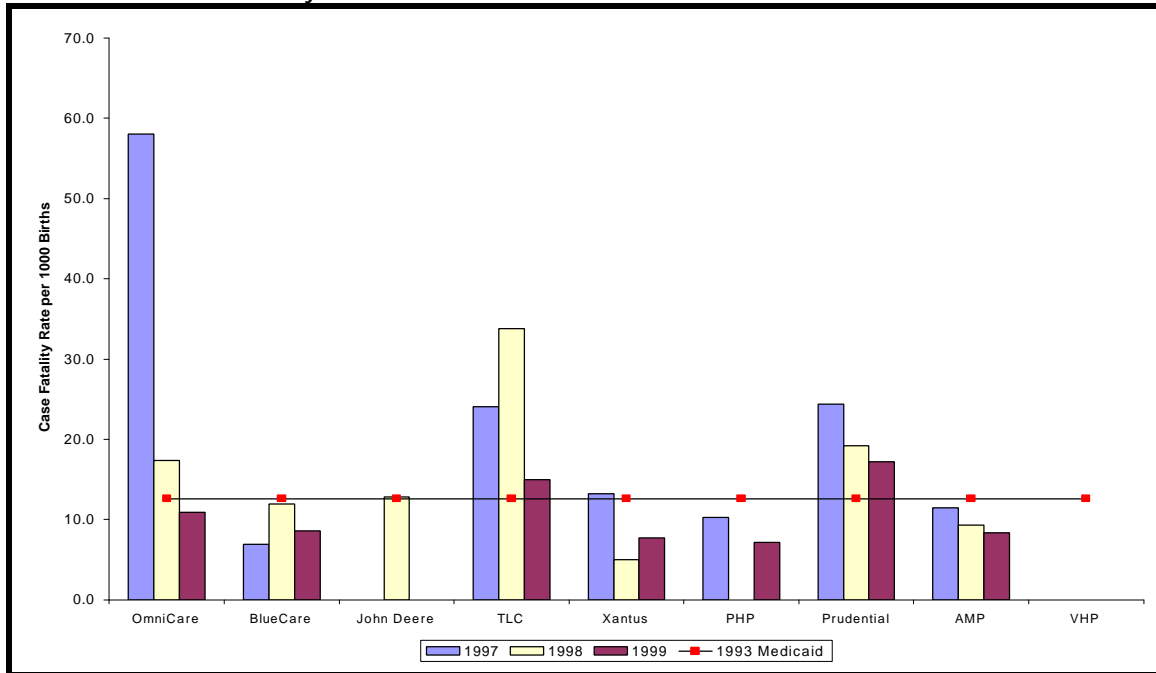


Figure 3.43  
 Infant Case Fatality Rate per 1000 Births  
 by CSA and Eligibility Category, 1999

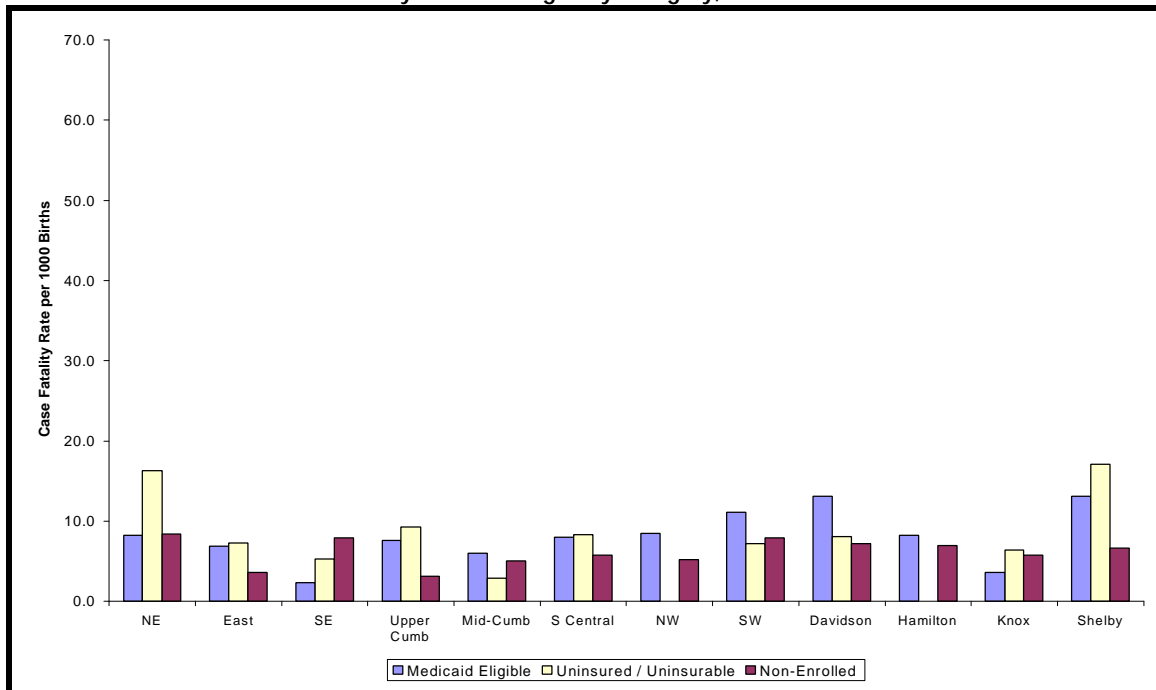


Figure 3.44  
 Infant Case Fatality Rate per 1000 Births  
 by CSA and Year for Non-Enrolled Individuals

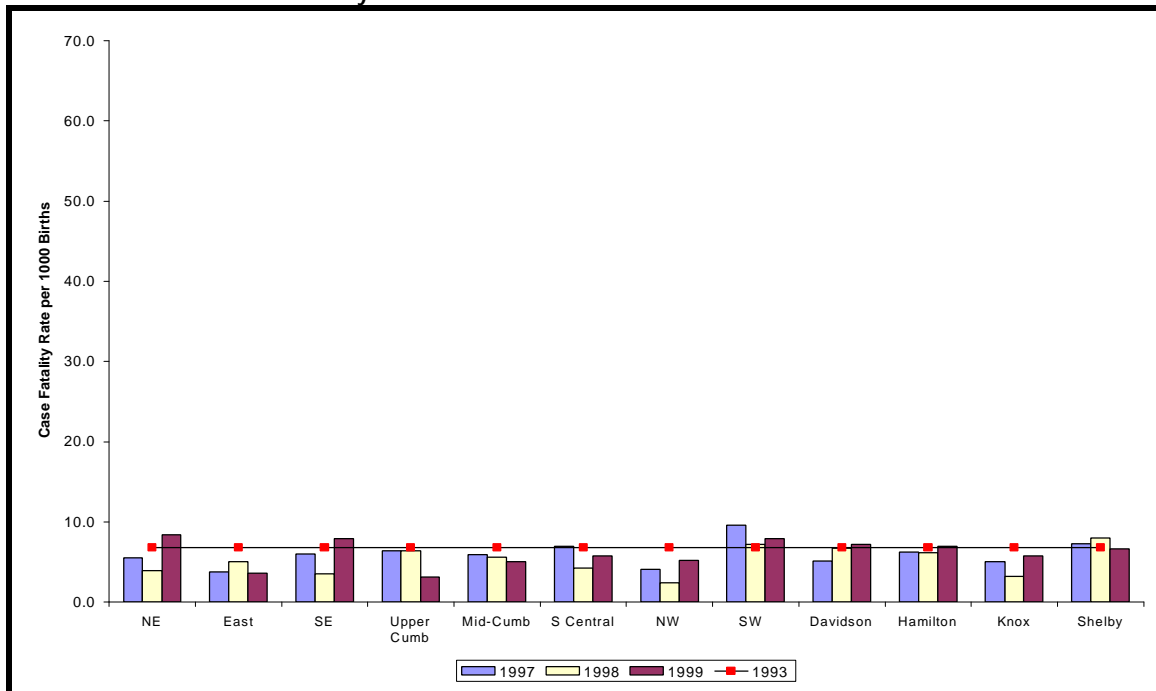


Figure 3.45  
 Infant Case Fatality Rate per 1000 Births  
 by CSA and Year for Medicaid Eligible Enrollees

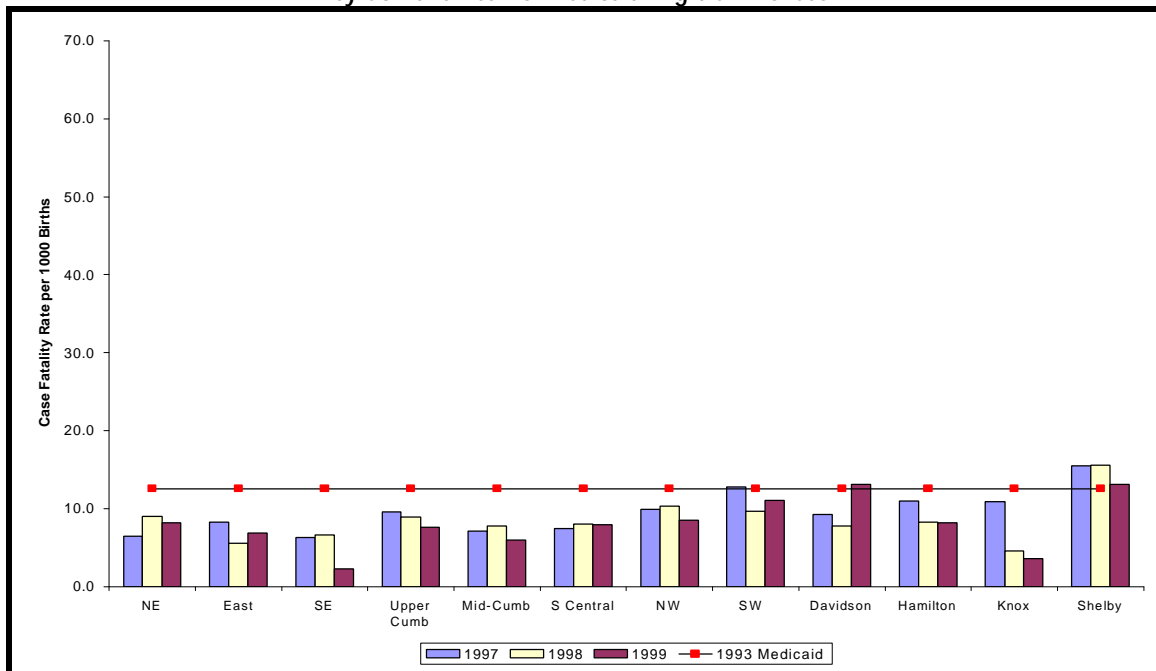
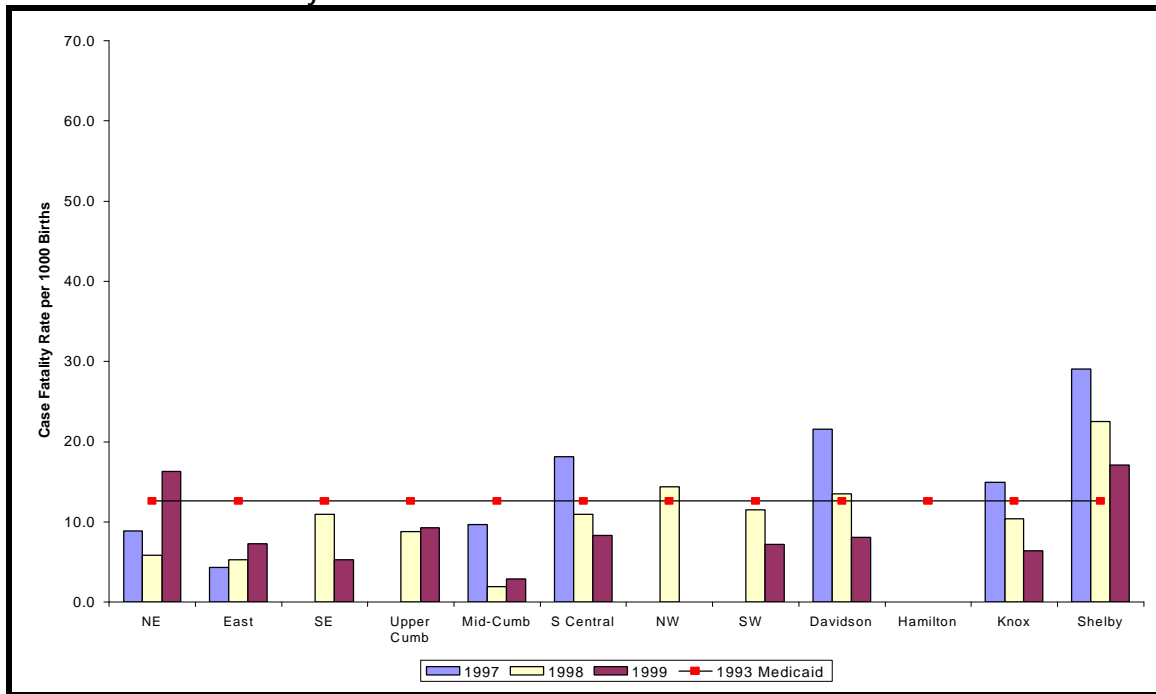




Figure 3.46  
Infant Case Fatality Rate per 1000 Births  
by CSA and Year for Uninsured / Uninsurable Enrollees



## Start of Prenatal Care

Early prenatal care is thought to help prevent infant fatalities. Therefore, an important health care quality measure is the trimester of pregnancy that prenatal care began. Table 3.15 gives the percentage of deliveries where prenatal care began in the first trimester by year, race, and Medicaid / TennCare status. After a steady increase from 1993 to 1999, the rate for all groups decreased considerably in 2000. This decrease is reflected in both TennCare groups and the non-enrolled as well as both white and black racial groups.

Figure 3.47 shows the percentage of deliveries where prenatal care began in the first trimester by managed care organization and eligibility category. The uninsured / uninsurable have a slightly higher percentage than Medicaid eligible enrollees across MCOs, and the MCOs with the highest percentages are BlueCare, John Deere, and PHP.

Figures 3.48 and 3.49 show similar data by year. Only OmniCare and TLC show percentages lower than the 1993 statewide average across the three years reported. Results for Access Med Plus were comparable to 1993 each year. With respect to the uninsured / uninsurable enrollees, all MCOs, with the exception of TLC, exceeded the 1993 Medicaid percentage. Percentages for the various community service areas are shown in Figures 3.50 through 3.53. Figure 3.50 shows that the percentage of deliveries where prenatal care began in the first trimester is highest among the non-enrolled and lowest among Medicaid eligible enrollees in all 12 CSAs. The other three figures show a decline in the rates across group for the majority of the CSAs from 1998 through 2000.

**Table 3.15**  
**Percentage of Deliveries with Prenatal Care Started in First Trimester by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	80.8	89.0	71.5	NA	90.8	75.7	NA
1995	81.8	90.6	71.4	79.7	91.8	75.1	81.7
1996	82.0	90.7	71.9	83.5	91.9	75.8	85.9
1997	82.6	90.9	72.9	83.6	92.1	76.9	86.1
1998	83.1	90.8	73.9	84.0	92.0	77.6	87.2
1999	83.1	90.2	74.6	82.0	91.2	78.1	83.5
2000	81.7	88.4	72.9	80.3	89.4	76.9	82.8
Year	All Groups	Race: Black			Race: Other		
1993	80.8	77.7	63.3	NA	81.4	64.3	NA
1995	81.8	81.6	64.7	71.8	84.9	66.3	82.4
1996	82.0	82.4	65.0	73.2	84.9	61.1	82.8
1997	82.6	82.7	65.7	72.6	86.9	66.7	87.2
1998	83.1	82.7	67.1	72.2	85.7	70.8	85.7
1999	83.1	84.4	68.4	76.2	82.3	65.7	76.1
2000	81.7	82.8	65.9	70.5	79.9	67.4	81.6

Figure 3.47  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by MCO and Eligibility Category, 2000

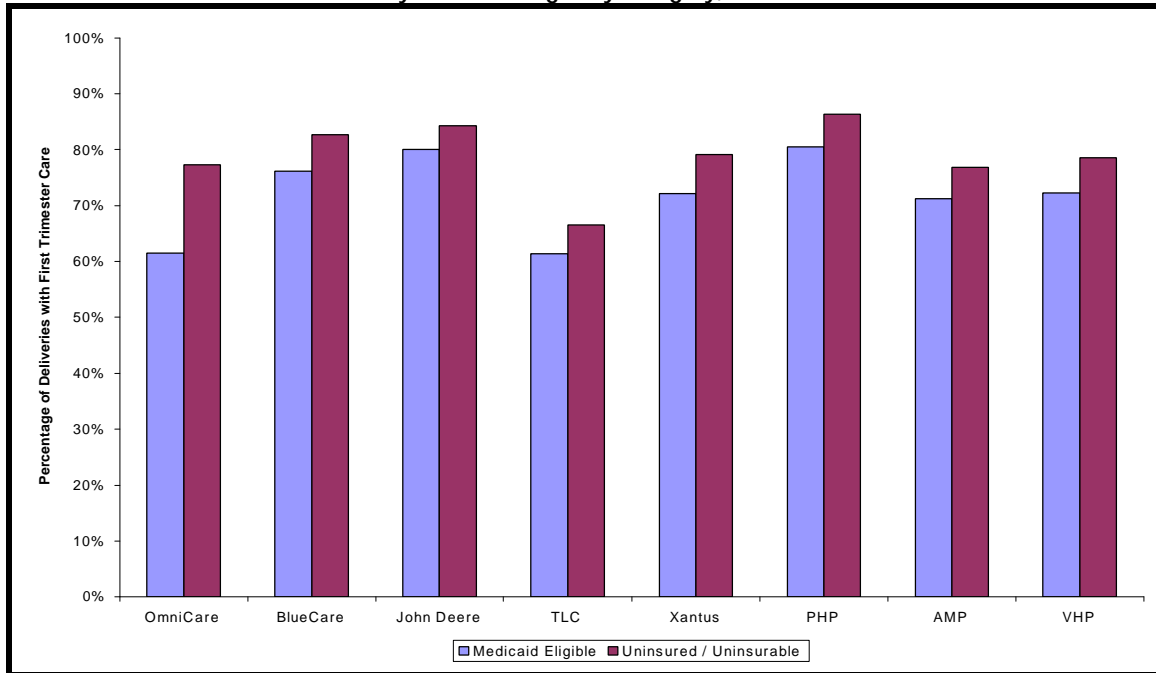


Figure 3.48  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by MCO and Year for Medicaid Eligible Enrollees

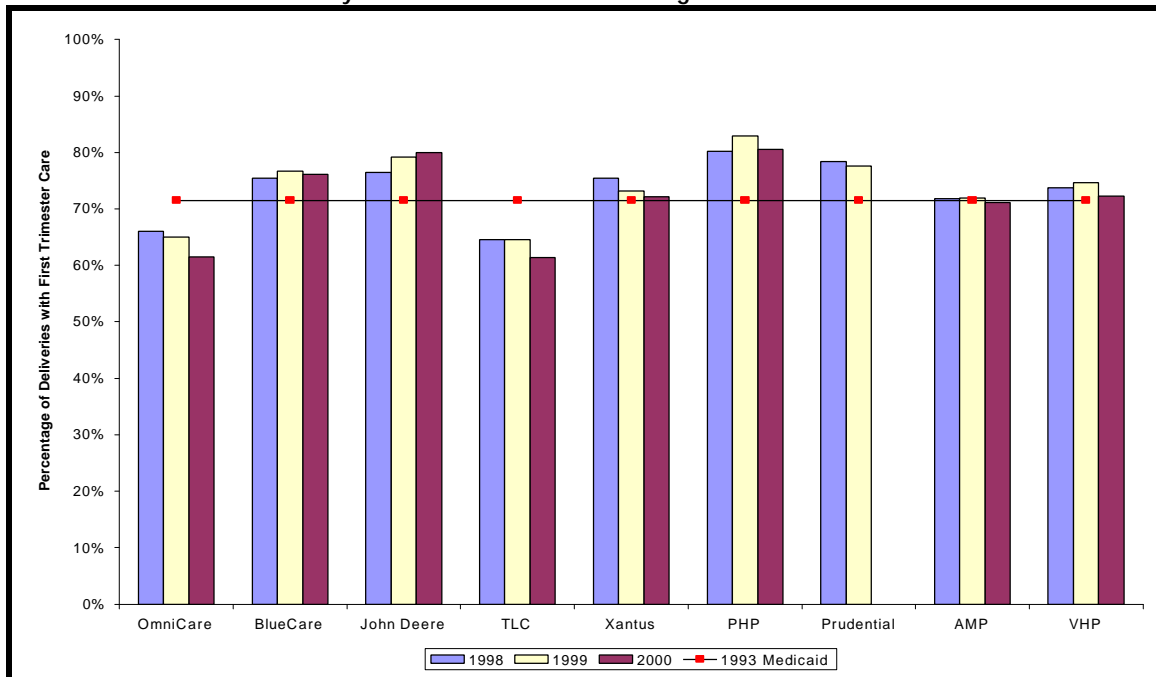




Figure 3.49  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by MCO and Year for Uninsured / Uninsurable Enrollees

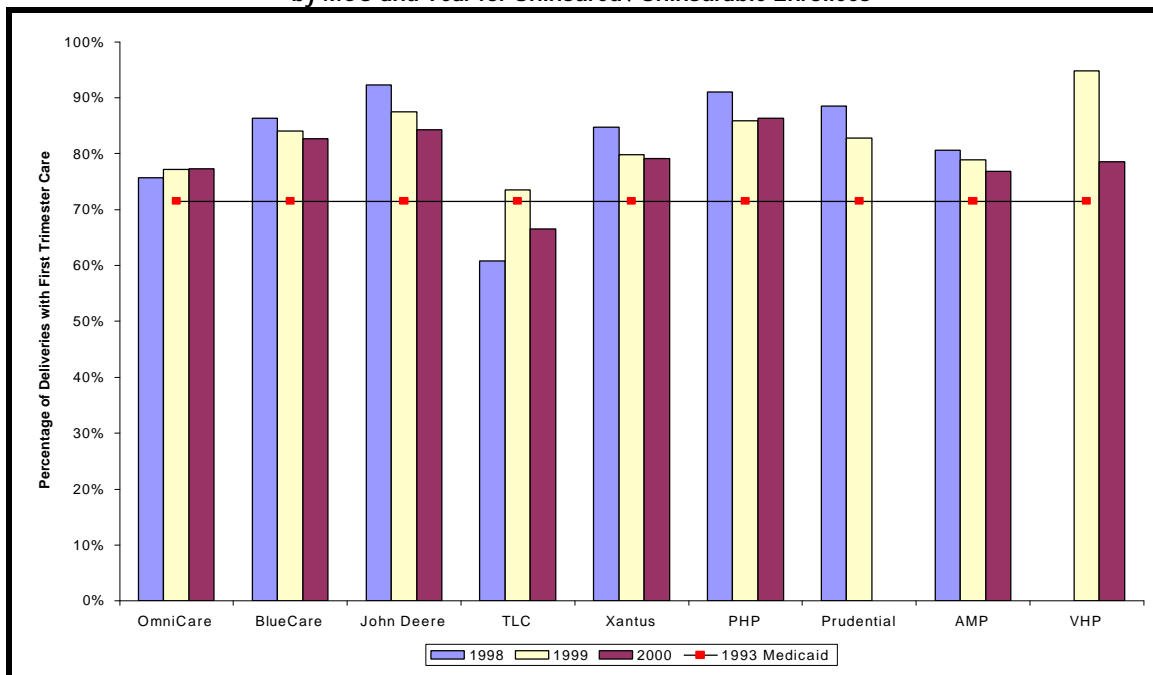


Figure 3.50  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by CSA and Eligibility Category, 2000

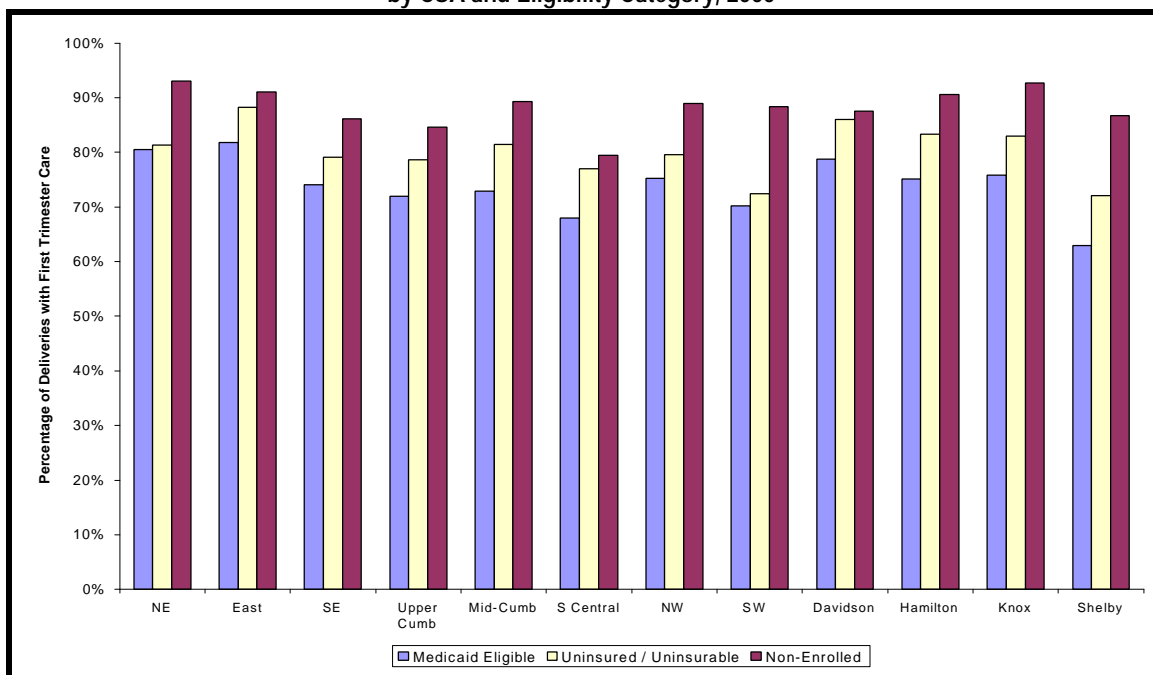


Figure 3.51  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by CSA and Year for Non-Enrolled Individuals

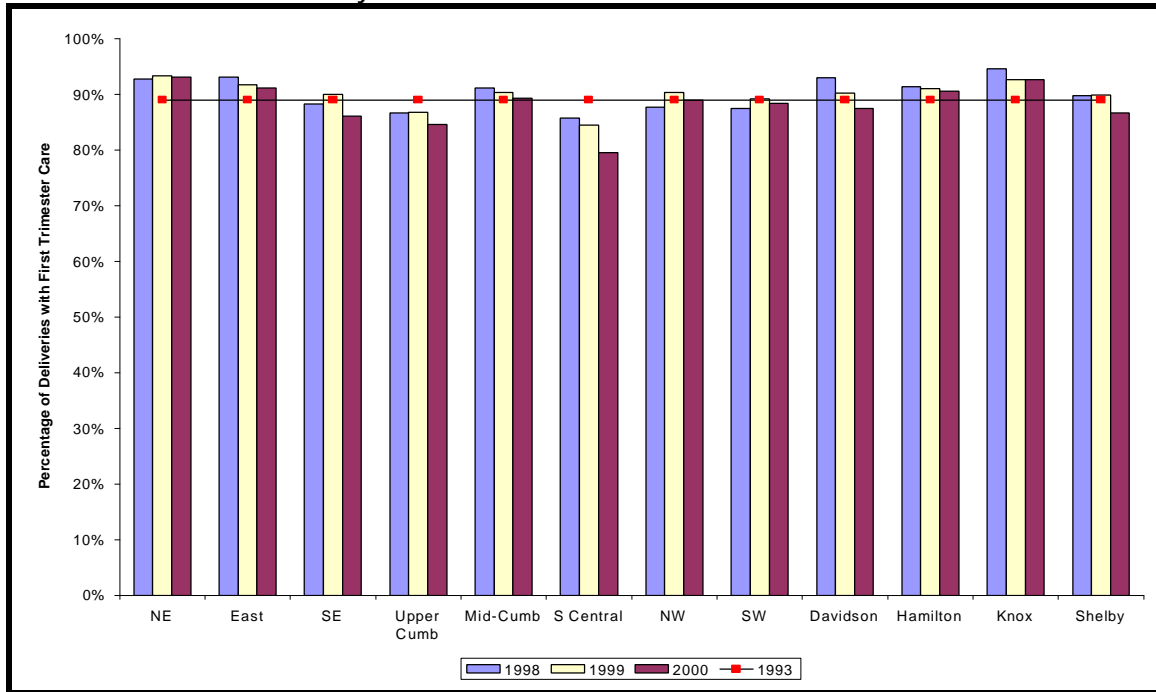


Figure 3.52  
Percentage of Deliveries with Prenatal Care Started in First Trimester  
by CSA and Year for Medicaid Eligible Enrollees

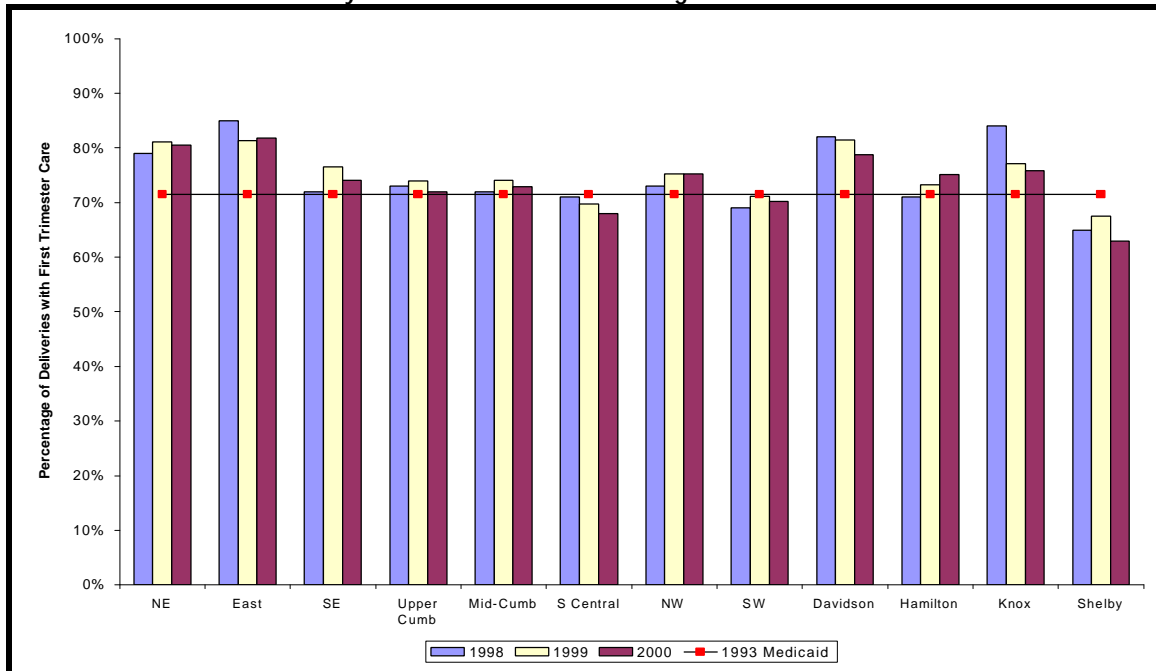
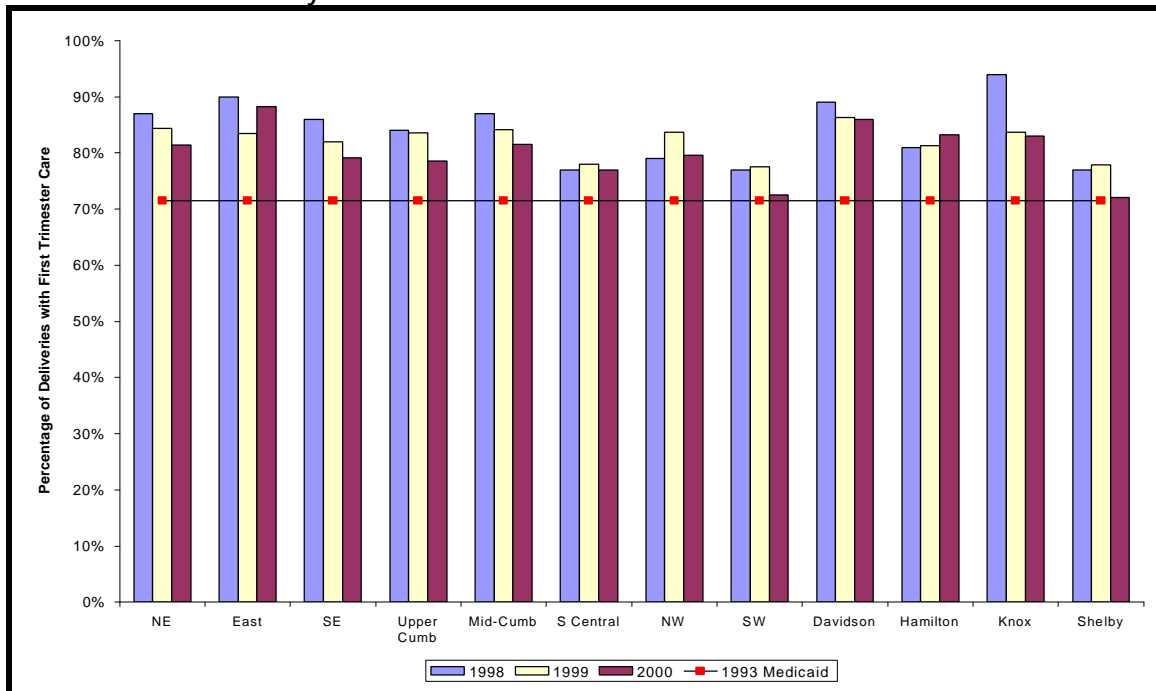


Figure 3.53  
 Percentage of Deliveries with Prenatal Care Started in First Trimester  
 by CSA and Year for Uninsured / Uninsurable Enrollees



## Low Birth Weight Deliveries

Another birth outcome that may be improved with good prenatal care is the delivery of a low birth weight infant, defined as an infant weighing less than 2500 grams at birth. Table 3.16 shows the percentage of deliveries that resulted in a low birth weight infant by year, race, and Medicaid / TennCare status. The percentage of low birth weight infants has remained relatively consistent from 1993 through 2000, with a slight overall increase over the time period. The rates for non-enrolled individuals increased somewhat, as compared to the two TennCare groups. The percentage for Medicaid eligible blacks decreased over the reporting period.

Figures 3.54 through 3.56 contain data broken out by managed care organization. Most MCOs have rates for the Medicaid eligible population that are higher than the uninsured / uninsurable enrollees. Exceptions are OmniCare and Access Med Plus, for which the two groups are similar, and John Deere. Most MCOs were below the 1993 Medicaid percentage in 2000. Medicaid eligible enrollees of OmniCare, TLC, Xantus, and Access Med Plus and uninsured / uninsurable enrollees of OmniCare, John Deere, TLC, and Access Med Plus, however, were not below the 1993 percentage.

Data for community service areas are shown in Figures 3.57 through 3.60. The percentages tend to be fairly consistent across time regardless of eligibility category. Medicaid eligible enrollees tend to have slightly higher percentages than the other two categories, and non-enrolled individuals tend to have somewhat lower percentages.

**Table 3.16**  
**Percentage of Deliveries with Low Birth Weight Infant by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	8.6	6.6	10.9	NA	5.7	8.8	NA
1995	8.7	6.9	10.8	9.9	6.1	8.8	8.7
1996	8.7	6.9	10.8	9.0	6.1	9.0	7.9
1997	8.6	7.0	10.5	8.9	6.2	8.8	8.3
1998	8.9	7.0	10.8	10.3	6.3	9.0	9.3
1999	9.0	7.3	11.0	9.8	6.6	9.5	9.1
2000	9.0	7.5	11.0	9.7	6.7	9.1	8.7
Year	All Groups	Race: Black			Race: Other		
1993	8.6	13.0	15.2	NA	6.4	8.0	NA
1995	8.7	13.2	14.4	14.1	7.2	9.0	12.2
1996	8.7	13.0	14.2	14.3	7.8	8.8	5.2
1997	8.6	12.7	13.7	11.5	7.8	8.3	5.1
1998	8.9	12.3	14.3	13.7	8.0	12.1	14.3
1999	9.0	13.4	13.9	13.1	6.7	7.5	9.0
2000	9.0	13.4	14.3	14.0	6.9	9.3	8.0

Figure 3.54  
Percentage of Deliveries with Low Birth Weight Infant  
by MCO and Eligibility Category, 2000

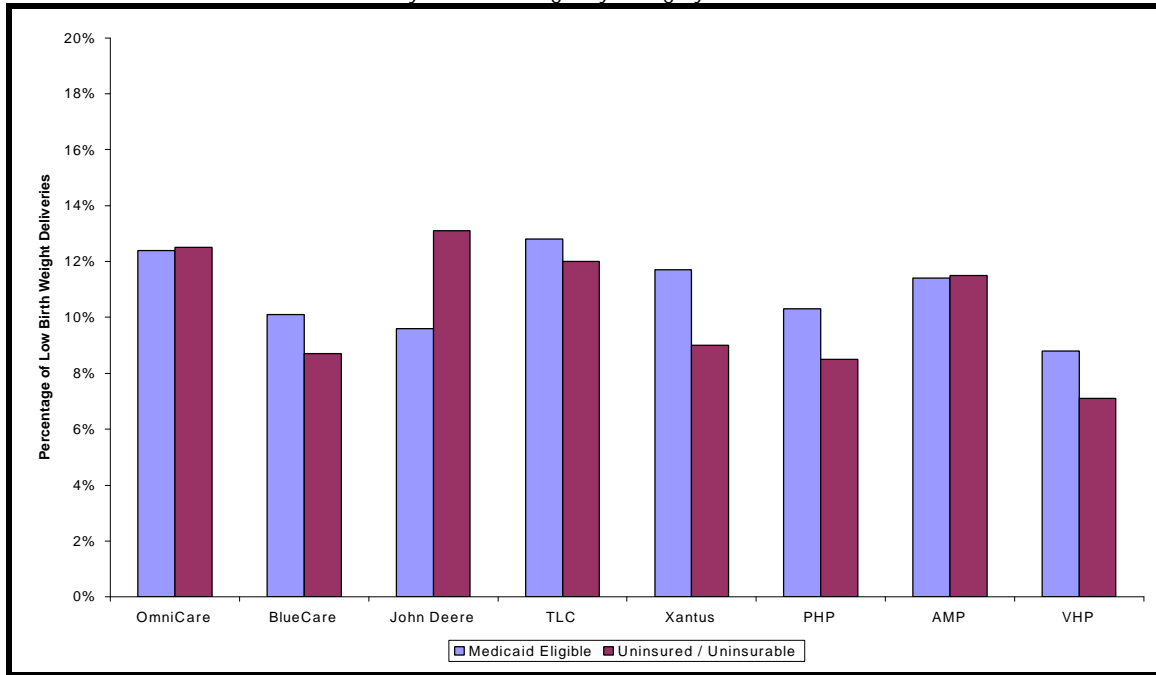


Figure 3.55  
Percentage of Deliveries with Low Birth Weight Infant  
by MCO and Year for Medicaid Eligible Enrollees

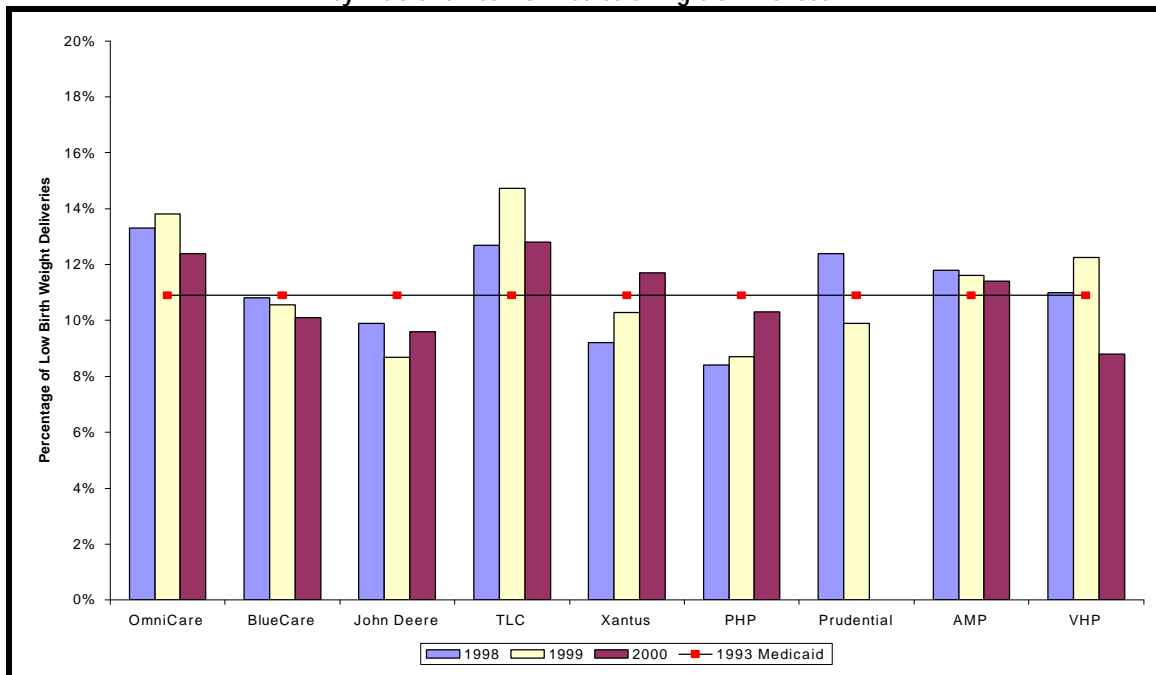


Figure 3.56  
Percentage of Deliveries with Low Birth Weight Infant  
by MCO and Year for Uninsured / Uninsurable Enrollees

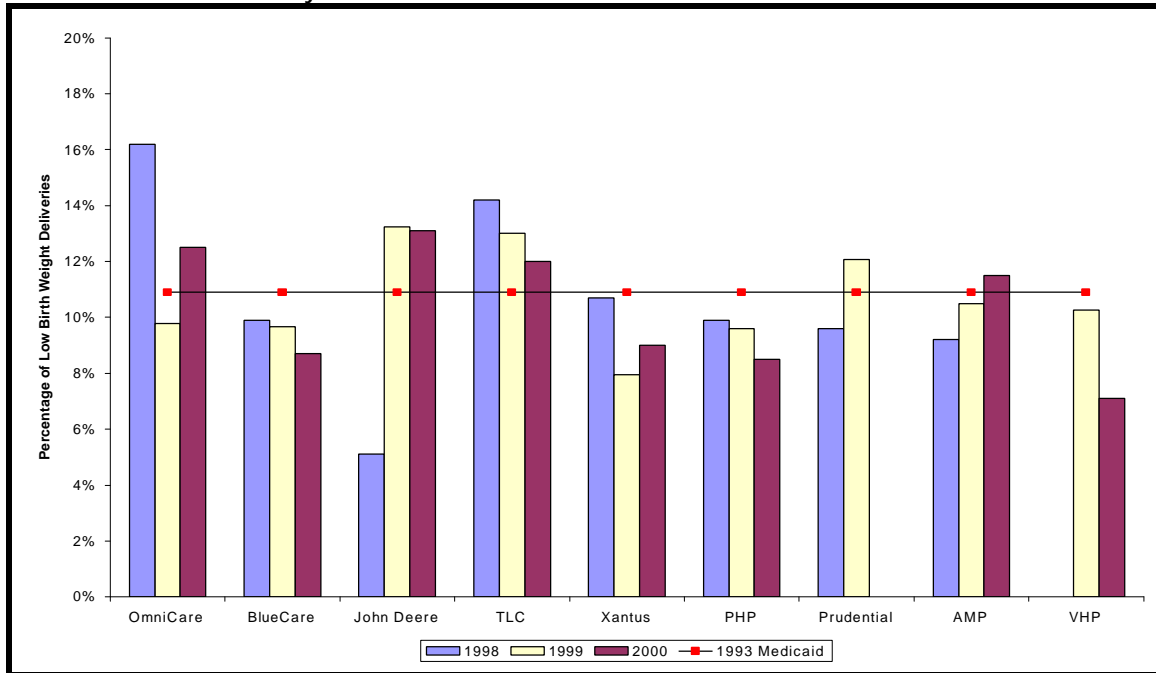


Figure 3.57  
Percentage of Deliveries with Low Birth Weight Infant  
by CSA and Eligibility Category, 2000

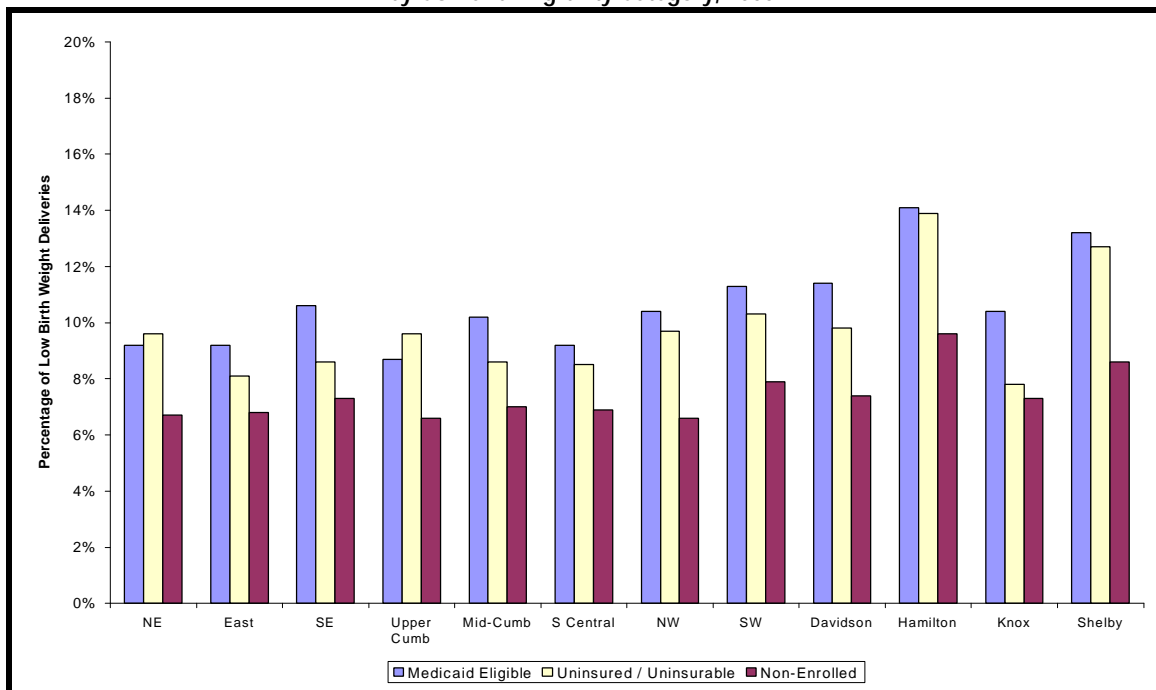


Figure 3.58  
Percentage of Deliveries with Low Birth Weight Infant  
by CSA and Year for Non-Enrolled Individuals

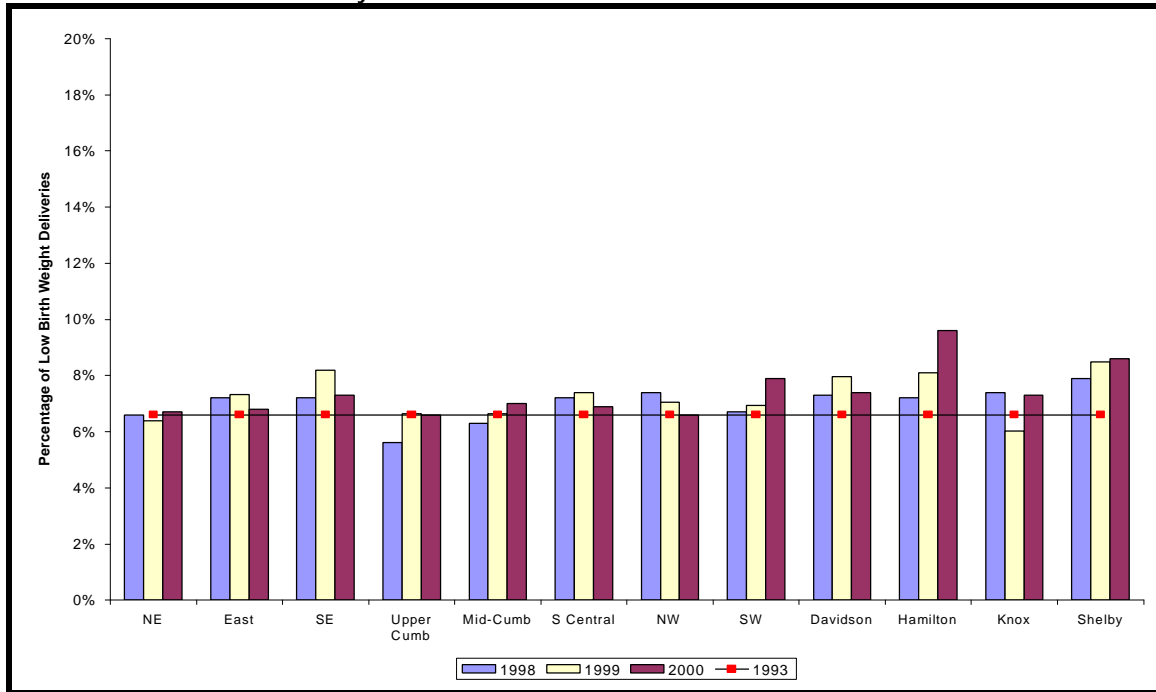


Figure 3.59  
Percentage of Deliveries with Low Birth Weight Infant  
by CSA and Year for Medicaid Eligible Enrollees

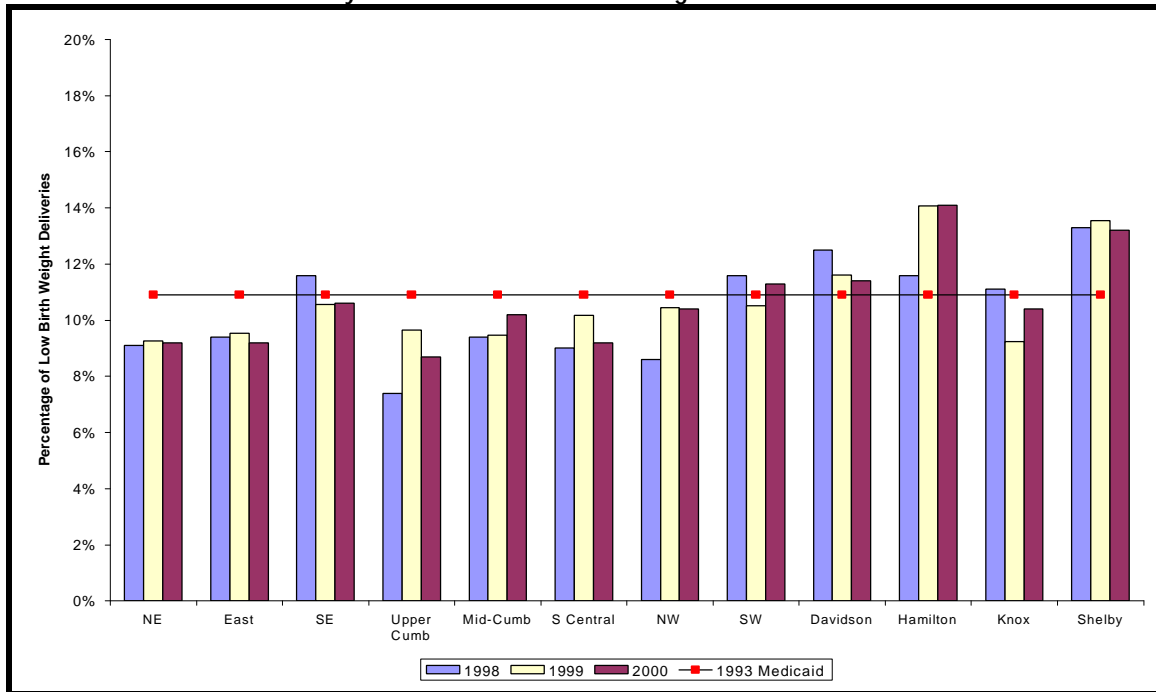
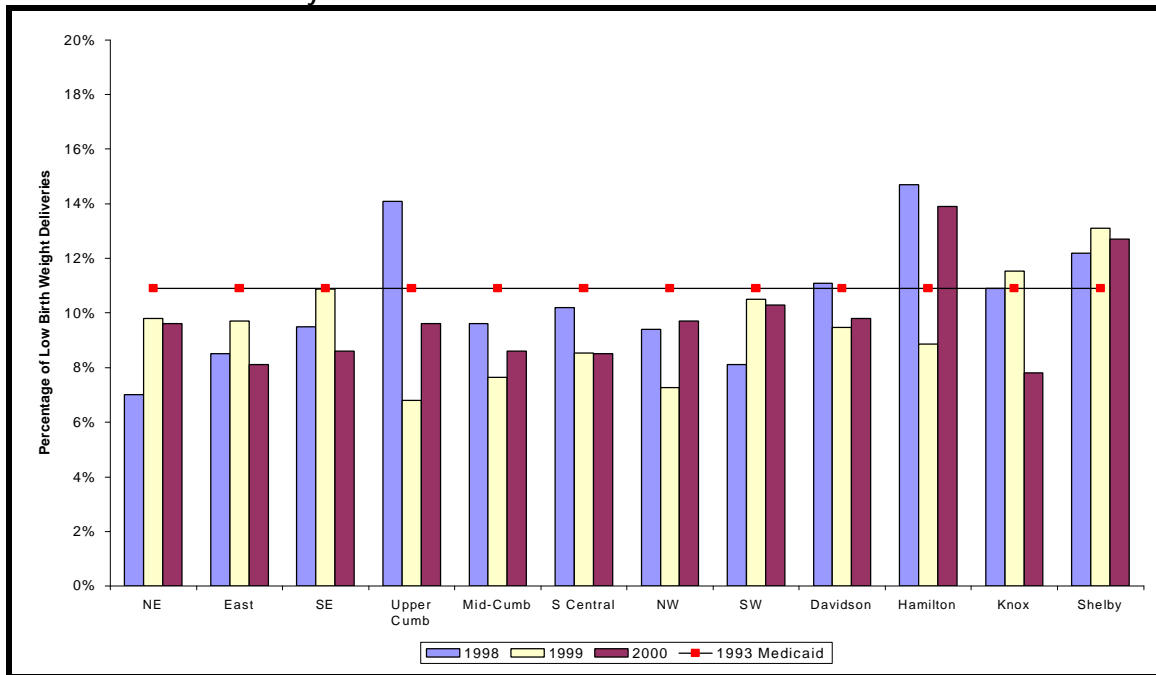


Figure 3.60  
 Percentage of Deliveries with Low Birth Weight Infant  
 by CSA and Year for Uninsured / Uninsurable Enrollees





## Delivery of Preterm Infants

Another outcome measure that relates to prenatal care is the delivery of a preterm infant, defined as a delivery that occurs prior to 37 weeks of gestation. Table 3.17 gives the percentages of deliveries that resulted in a preterm infant by year, race, and TennCare status. The percentage of preterm deliveries is increasing for all groups and is apparent regardless of TennCare status. This is true in the white racial category but not true in the black racial category. Percentages for Medicaid eligible blacks fluctuated somewhat over time, but the 2000 percentage is very similar to the 1993 Medicaid percentage.

Figures 3.61 through 3.63 give the percentages by managed care organization. OmniCare and TLC have the highest percentages among Medicaid eligible enrollees, while John Deere and OmniCare have the highest among the uninsured / uninsurable. Most MCOs had percentages in 2000 for Medicaid eligible enrollees that were equal to or higher than the statewide percentage for Medicaid enrollees in 1993. With respect to the uninsured / uninsurable, however, five MCOs (BlueCare, TLC, Xantus, PHP, and VHP) had 2000 percentages below 1993 Medicaid.

Data for the community service areas are shown in Figures 3.64 through 3.67. These figures reveal that non-enrolled individuals tended to have the lowest percentages of preterm deliveries, although this was not absolute. Percentages for the Medicaid eligible population approached or exceeded those for non-enrolled individuals in the East, Southeast, Upper Cumberland, Mid-Cumberland, and South Central CSAs. Among Medicaid eligible enrollees, the four urban CSAs (Davidson County, Hamilton County, Knox County, and Shelby County) as well as the Southeast and Southwest CSAs all had 2000 percentages that were higher than the 1993 statewide percentage.

**Table 3.17**  
**Percentage of Deliveries with Preterm Infant by Year, Race, and TennCare Status**

Year	All Groups	All Races			Race: White		
		Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable	Non-Enrolled	Medicaid Eligible	Uninsured / Uninsurable
1993	10.3	8.8	12.0	NA	8.1	10.0	NA
1995	10.4	9.1	12.0	11.0	8.6	10.1	10.2
1996	11.0	9.7	12.3	12.2	9.2	10.7	10.7
1997	11.0	10.0	12.2	11.5	9.5	10.9	10.8
1998	11.4	10.3	12.5	13.0	9.8	11.1	11.9
1999	11.8	10.6	13.1	12.7	10.0	11.4	12.2
2000	11.9	11.1	13.0	12.1	10.6	11.3	11.2
Year	All Groups	Race: Black			Race: Other		
1993	10.3	14.3	16.1	NA	7.4	6.8	NA
1995	10.4	13.2	15.5	14.5	6.9	9.3	8.1
1996	11.0	13.8	15.4	18.5	8.5	10.0	12.1
1997	11.0	13.9	14.7	14.5	8.5	9.6	5.1
1998	11.4	14.0	15.0	16.4	9.2	13.3	18.4
1999	11.8	15.8	16.3	14.7	8.8	9.4	11.9
2000	11.9	15.6	16.0	15.7	9.3	10.7	9.2

Figure 3.61  
Percentage of Deliveries with Preterm Infant  
by MCO and Eligibility Category, 2000

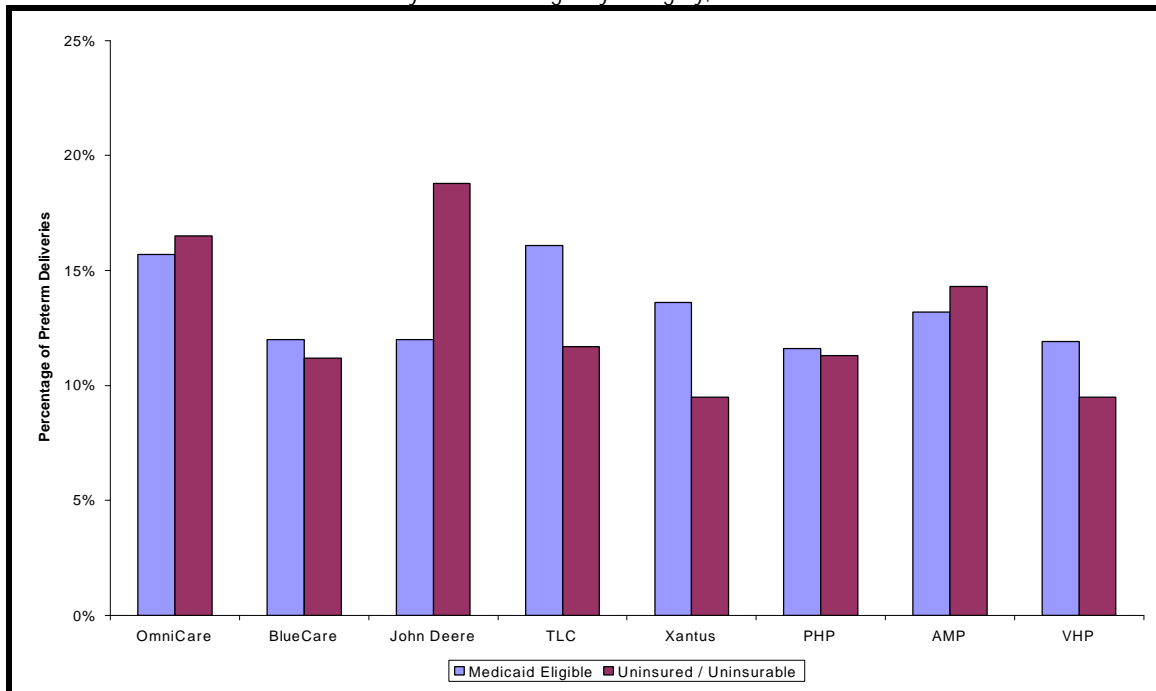


Figure 3.62  
Percentage of Deliveries with Preterm Infant  
by MCO and Year for Medicaid Eligible Enrollees

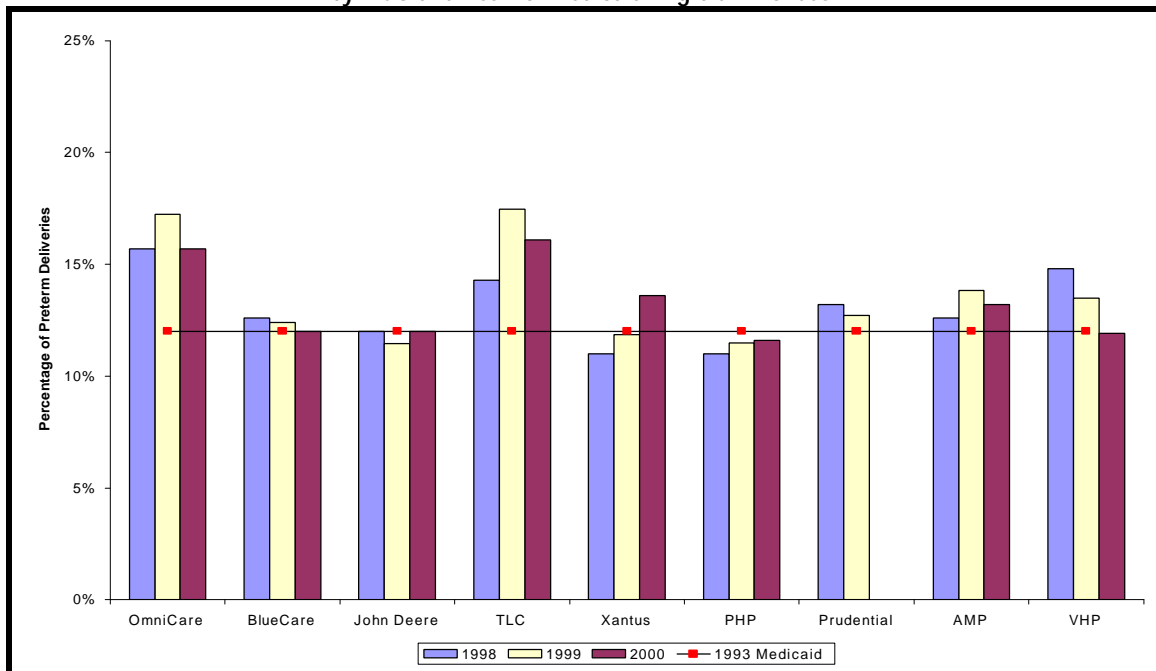


Figure 3.63  
Percentage of Deliveries with Preterm Infant  
by MCO and Year for Uninsured / Uninsurable Enrollees

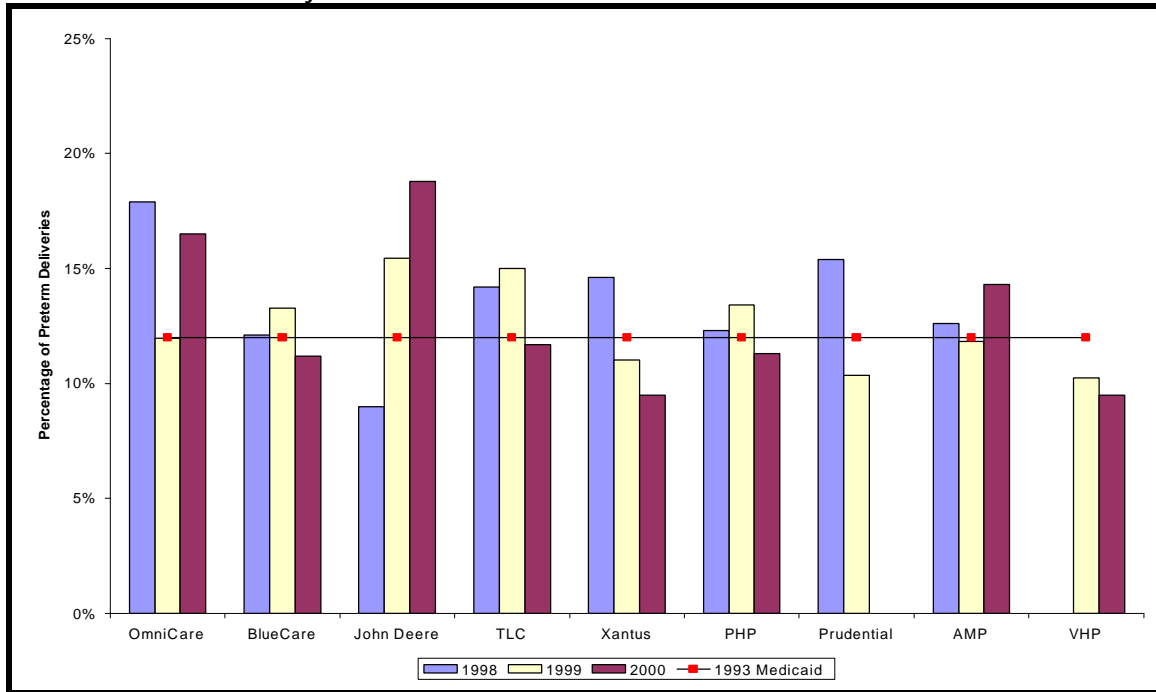


Figure 3.64  
Percentage of Deliveries with Preterm Infant  
by CSA and Eligibility Category, 2000

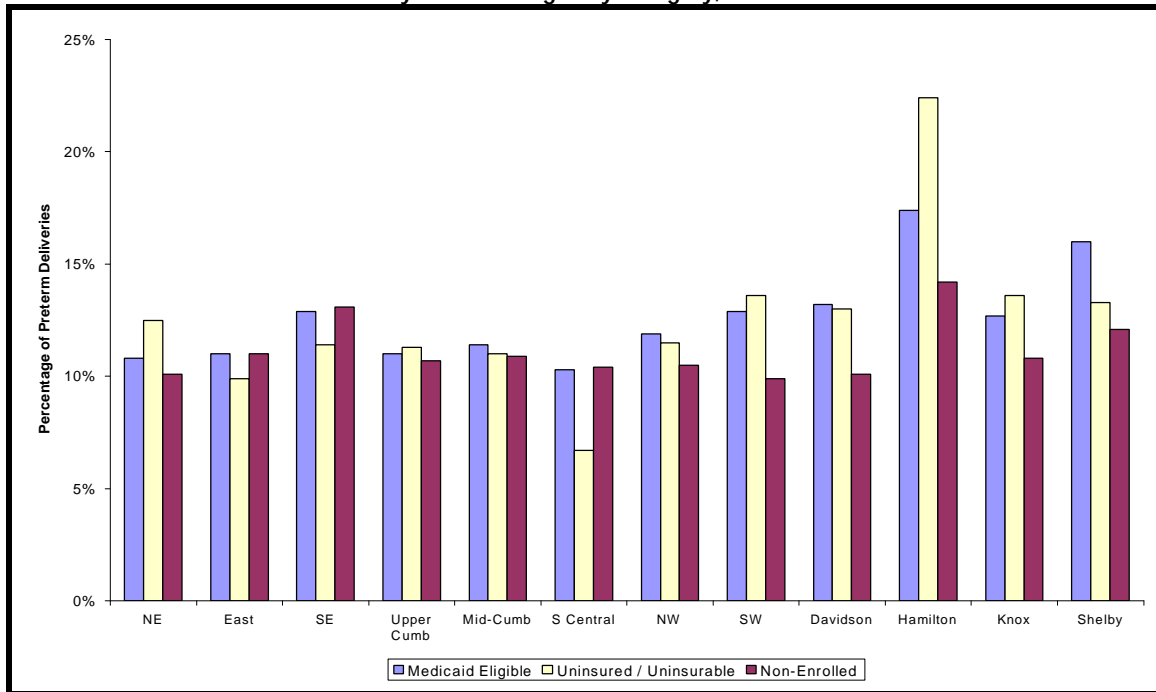




Figure 3.65  
Percentage of Deliveries with Preterm Infant  
by CSA and Year for Non-Enrolled Individuals

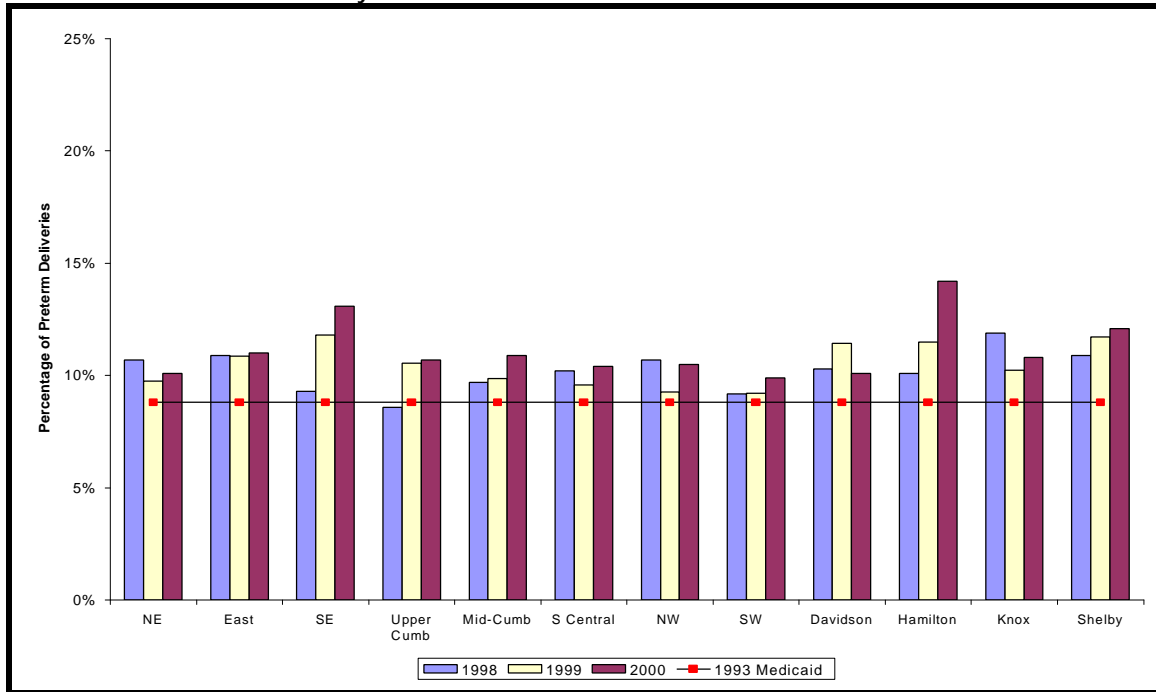


Figure 3.66  
Percentage of Deliveries with Preterm Infant  
by CSA and Year for Medicaid Eligible Enrollees

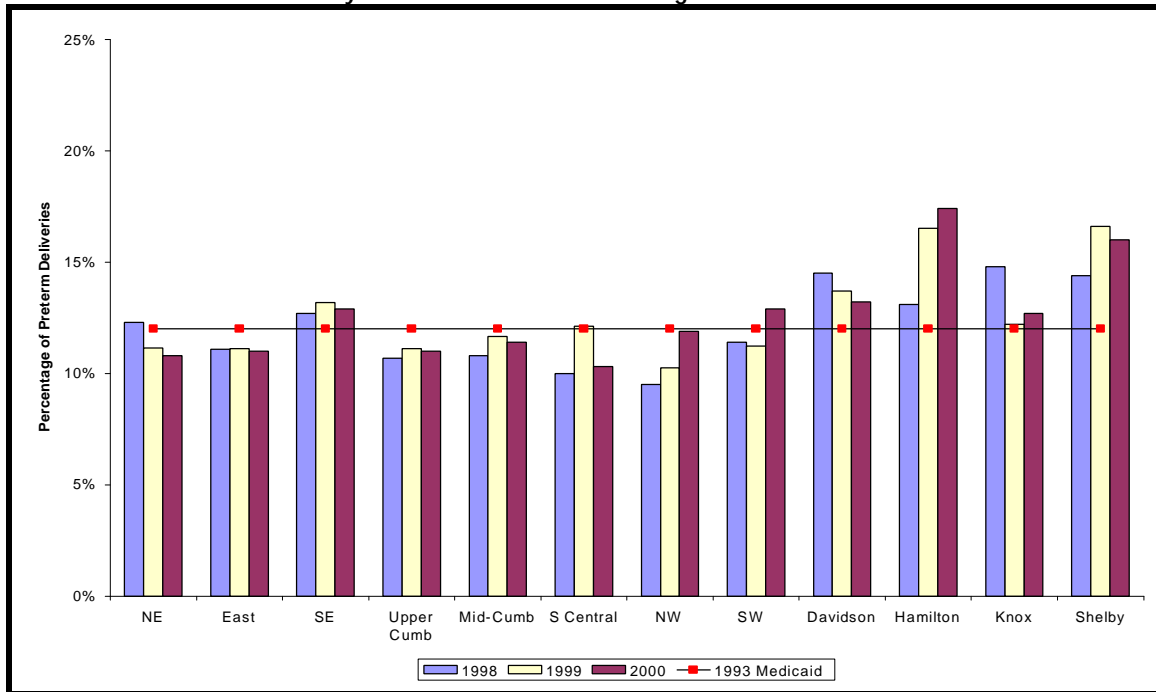
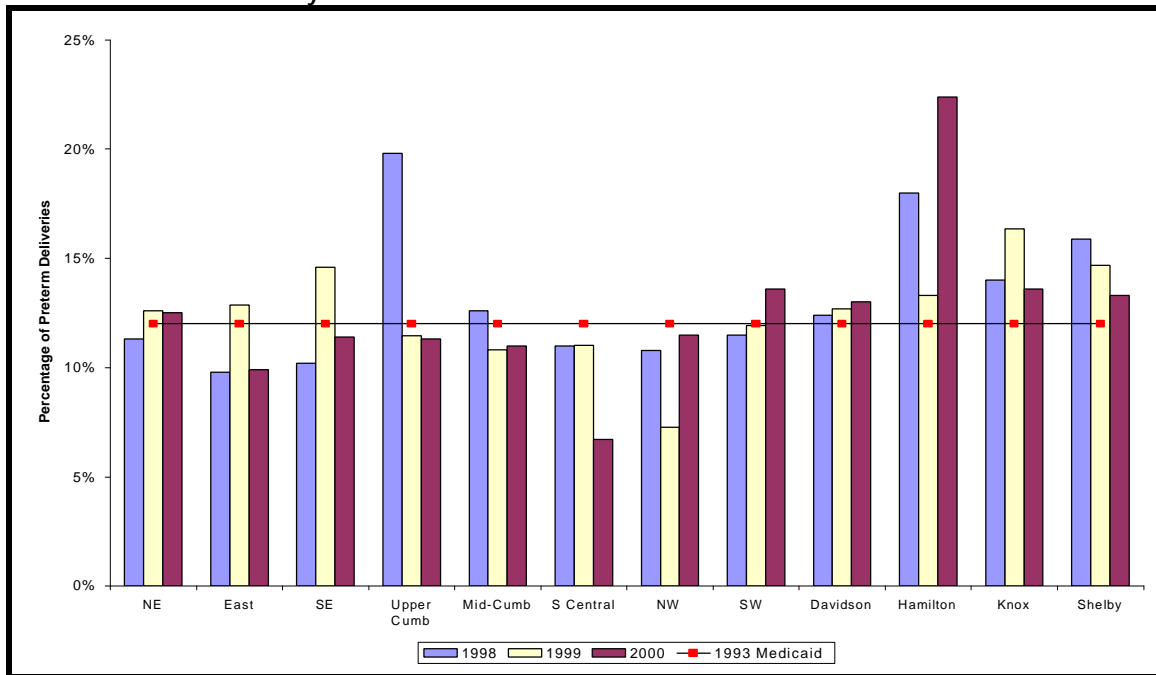


Figure 3.67  
Percentage of Deliveries with Preterm Infant  
by CSA and Year for Uninsured / Uninsurable Enrollees



# **Section IV**

## **Presumptive Eligibility**

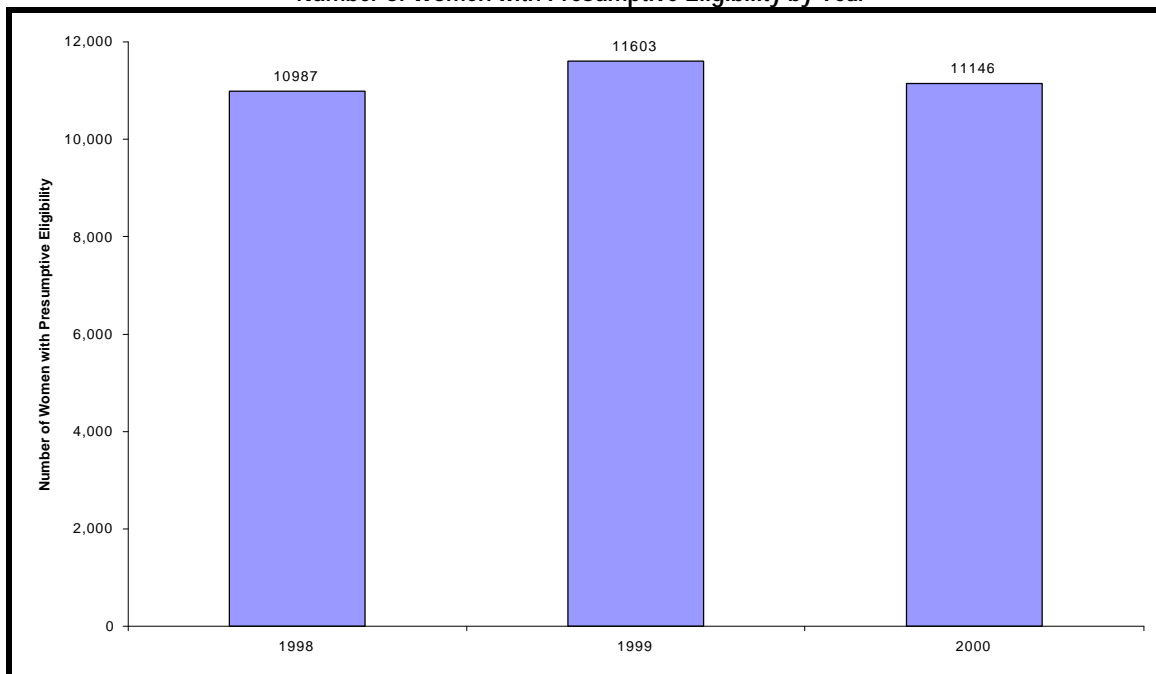




Presumptive eligibility is a TennCare enrollment category created to ensure women have access to prenatal care early in their pregnancies. If a woman believes that she is pregnant and that she would be eligible for Medicaid / TennCare, she can go to her local health department for a presumptive eligibility determination. The health department confirms the pregnancy and makes a preliminary evaluation of her eligibility for TennCare. If they determine that she is probably eligible, the county health department will grant the woman presumptive eligibility for a 45 day period. During this time, the woman can continue to receive prenatal care under the TennCare program while she is completing the normal enrollment procedures.

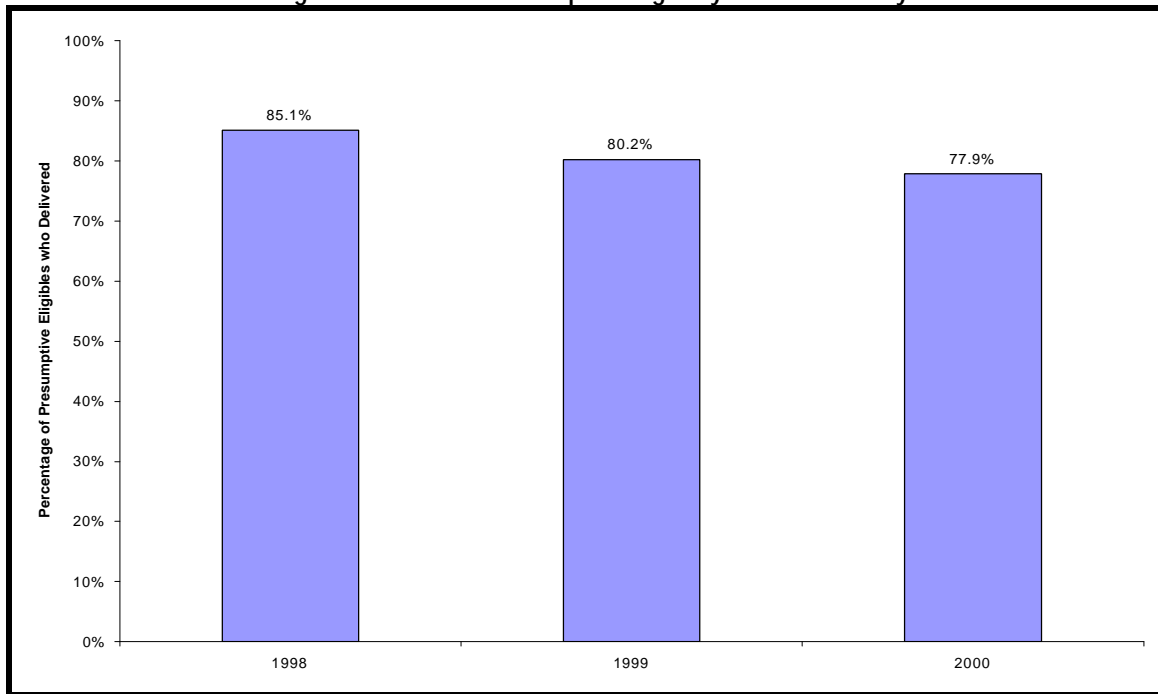
The following charts provide information related to presumptive eligibility. Figure 4.1 displays the total number of women granted presumptive eligibility between 1998 and 2000. The number of women increased from 10,987 in 1998 to 11,603 in 1999 but then decreased in 2000 to 11,146.

**Figure 4.1**  
**Number of Women with Presumptive Eligibility by Year**



Some women with presumptive eligibility never deliver an infant due to miscarriages or other reasons. To determine the percentage of women who actually delivered after being granted presumptive eligibility, data for women from the TennCare eligibility file were matched, on the basis of social security numbers, with data from the State of Tennessee birth certificate file. Figure 4.2 shows the percentage of women with presumptive eligibility who delivered by year. Data for 2000 are estimated based on the first four months of 2000 due to the unavailability of 2001 birth records. Figure 4.2 reveals a significant decrease from 1998 to 2000 in the number of women with presumptive eligibility who delivered, from 85.1 percent in 1998 to 80.2 percent in 1999 to 77.9 percent in 2000.

**Figure 4.2**  
**Percentage of Women with Presumptive Eligibility who Delivered by Year**



# Section V

## Utilization Data



Utilization data provide information on the delivery and use of health care services to the TennCare population. This section displays data pertaining to the utilization of services by TennCare women during the period 1998 through 2000. The following is a list of the measures presented, including the definitions for each. Specific definitions of the diagnosis and procedure codes listed are available from the Bureau of TennCare upon request and contained in various standard healthcare coding manuals including the CPT coding manual from the American Medical Association and the International Classification of Diseases.

**Primary Care Physician Visits:** The number of unduplicated visits to a provider with a specialty code of 001 (general practice), 008 (family practice), 011 (general internal medicine), 016 (obstetrics-gynecology), 037 (pediatrics), 044 (public health), or 080 (community health). A single visit to a provider might encompass multiple services.

**Primary Care Physician Services:** The number of services provided by a provider with a specialty code of 001 (general practice), 008 (family practice), 011 (general internal medicine), 016 (obstetrics-gynecology), 037 (pediatrics), 044 (public health), or 080 (community health). Multiple services could be provided during a single visit.

**Non-Primary Care Physician Visits:** The number of unduplicated visits to a provider with a specialty code of 002 (general surgery), 003 (allergy), 004 (otolaryngology), 005 (anesthesiology), 006 (cardiology), 007 (dermatology), 009 (gynecology), 010 (gastroenterology), 012 (manipulative therapy), 013 (neurology), 014 (neurosurgery), 015 (obstetrics), 018 (ophthalmology), 020 (orthopedic surgery), 022 (pathology), 023 (peripheral vascular disease / surgery), 024 (plastic and reconstructive surgery), 025 (physical medicine and rehabilitation), 026 (psychiatry), 027 (psychiatry, neurology), 028 (colorectal surgery [proctology]), 029 (pulmonary diseases), 030 (diagnostic radiology), 031 (roentgenology, radiology), 032 (radiation therapy), 033 (thoracic surgery), 034 (urology), 036 (nuclear medicine), 039 (nephrology), 040 (hand surgery), 042 (drug / substance abuse), 043 (pediatric allergy), 046 (radiology / oncology), 048 (podiatry - surgical chiropody), 049 (administrative medicine), 067 (oral surgeon - dental), 098 (emergency medicine), CI (critical care [intensivist]), CS (cardiac surgery), EN (endocrinology), FH (federally qualified health center), GM (geriatrics), GT (genetics), HE (hematology), HO (hematology / oncology), ID (infectious disease), IG (immunology), MS (maxillofacial surgery), ND (nutrition / dietitian), NE (neonatology), ON (oncology), OP (pediatric orthopedics), PC (pediatric cardiology), PE (pediatric endocrinology), PS (pediatric surgery), PV (peripheral vascular disease), Q9 (community mental health agency other than CMHC), RH (rheumatology), SH (speech and hearing), SO (surgical oncology), UP (pediatric urology), or VS (vascular surgery). A single visit to a provider might encompass multiple services.

**Non-Primary Care Physician Services:** The number of services provided by a provider with a specialty code of 002 (general surgery), 003 (allergy), 004 (otolaryngology), 005 (anesthesiology), 006 (cardiology), 007 (dermatology), 009 (gynecology), 010 (gastroenterology), 012 (manipulative therapy), 013 (neurology), 014 (neurosurgery), 015 (obstetrics), 018 (ophthalmology), 020 (orthopedic surgery), 022 (pathology), 023 (peripheral vascular disease / surgery), 024 (plastic and reconstructive surgery), 025 (physical medicine and rehabilitation), 026 (psychiatry), 027 (psychiatry, neurology), 028 (colorectal surgery [proctology]), 029 (pulmonary diseases), 030 (diagnostic radiology), 031 (roentgenology, radiology), 032 (radiation therapy), 033 (thoracic surgery), 034 (urology), 036 (nuclear medicine), 039 (nephrology), 040 (hand surgery), 042 (drug /

substance abuse), 043 (pediatric allergy), 046 (radiology / oncology), 048 (podiatry - surgical chiropody), 049 (administrative medicine), 067 (oral surgeon - dental), 098 (emergency medicine), CI (critical care [intensivist]), CS (cardiac surgery), EN (endocrinology), FH (federally qualified health center), GM (geriatrics), GT (genetics), HE (hematology), HO (hematology / oncology), ID (infectious disease), IG (immunology), MS (maxillofacial surgery), ND (nutrition / dietician), NE (neonatology), ON (oncology), OP (pediatric orthopedics), PC (pediatric cardiology), PE (pediatric endocrinology), PS (pediatric surgery), PV (peripheral vascular disease), Q9 (community mental health agency other than CMHC), RH (rheumatology), SH (speech and hearing), SO (surgical oncology), UP (pediatric urology), or VS (vascular surgery). Multiple services could be provided during a single visit to a physician.

**Inpatient Discharges:** The number of unduplicated UB92 records with claim type 1 and bill type 111, 121, 114, or 124.

**Inpatient Bed Days:** The total number of days computed by subtracting the admission date from the discharge date on UB92 records defined as inpatient discharges.

**Average Length of Inpatient Stay:** The average number of inpatient bed days of all UB92 records defined as inpatient discharges.

**Hospitalizations for Individuals with Ambulatory Care Sensitive Conditions:** The number of unduplicated inpatient admissions with an ICD-9-CM diagnosis code of 033 through 033.99; 390 through 390.99; 391 through 391.99; 037 through 037.99; 045 through 045.99; 320.0 through 320.09; 280.1 through 280.19; 280.8 through 280.89; 280.9 through 280.99; 260 through 260.99; 261 through 261.99; 262 through 262.99; 268.0 through 268.09; 268.1 through 268.19; 780.3 through 780.39; 382 through 382.99; 462 through 462.99; 463 through 463.99; 465 through 465.99; 472.1 through 472.19; 481 through 481.99; 482.2 through 482.29; 482.3 through 482.39; 482.9 through 482.99; 483 through 483.99; 485 through 485.99; 486 through 486.99; 681 through 681.99; 682 through 682.99; 683 through 683.99; 686 through 686.99; 251.2 through 251.29; 250.1 through 250.19; 250.2 through 250.29; 250.3 through 250.39; 558.9 through 558.99; 590 through 590.99; 599.0 through 599.09; 599.9 through 599.99; 276.5 through 276.59; 614 through 614.99; 345 through 345.99; 011 through 011.99; 012 through 018.99; 491 through 491.99; 492 through 492.99; 494 through 494.99; 496 through 496.99; 493 through 493.99; 428 through 428.99; 402.01; 402.11; 402.91; 518.4 through 518.49; 401.0 through 401.09; 401.9 through 401.99; 402.00; 402.10; 402.90; 411.8 through 411.89; 413 through 413.99; 250.8 through 250.89; 250.9 through 250.99; 250.0 through 250.09; 521 through 521.99; 522 through 522.99; 523 through 523.99; 525 through 525.99; or 528 through 528.99.

**ER Visits:** The number of unduplicated UB92 records with a bill type of 131 or 134 and either a revenue code of 450 through 459 or a CPT-4 code between 99281 and 99288 located in a revenue code field and HCFA 1500 records with a CPT-4 code between 99281 and 99288.

**Women Receiving Pap Smears:** The number of unduplicated individuals with a visit with a CPT-4 code of 88141, 88142, 88143, 88144, 88145, 88147, 88148, 88150, 88151, 88152, 88153, 88154, 88155, 88156, 88157, 88158, 88164, 88165, 88166, 88167 or a state code of P3000, P3001, Q0060, Q0061, Y0126 or an ICD-9 procedure code of 91.46 or an ICD-9 diagnosis code of V76.2 or a revenue code of 923.

**Women Receiving Mammograms:** The number of unduplicated individuals with a visit with a CPT-4 code of 76090, 76091, 76092 or a state code of Y7220 or Y7221 or an ICD-9 procedure code of 87.36 or 87.37 or an ICD-9 diagnosis code of V76.11 or V76.12 or a revenue code of 401 or 403.

**Hysterectomies:** The number of unduplicated individuals in the inpatient database with an ICD-9-CM procedure code of 68.3 through 68.7 or 68.9.

**Mastectomies:** The number of unduplicated individuals in the inpatient database with an ICD-9-CM procedure code of 85.4 through 85.48.

**Cholecystectomies:** The number of unduplicated individuals in the inpatient database with an ICD-9-CM procedure code of 51.2 through 51.23.

## Primary Care Physician Visits

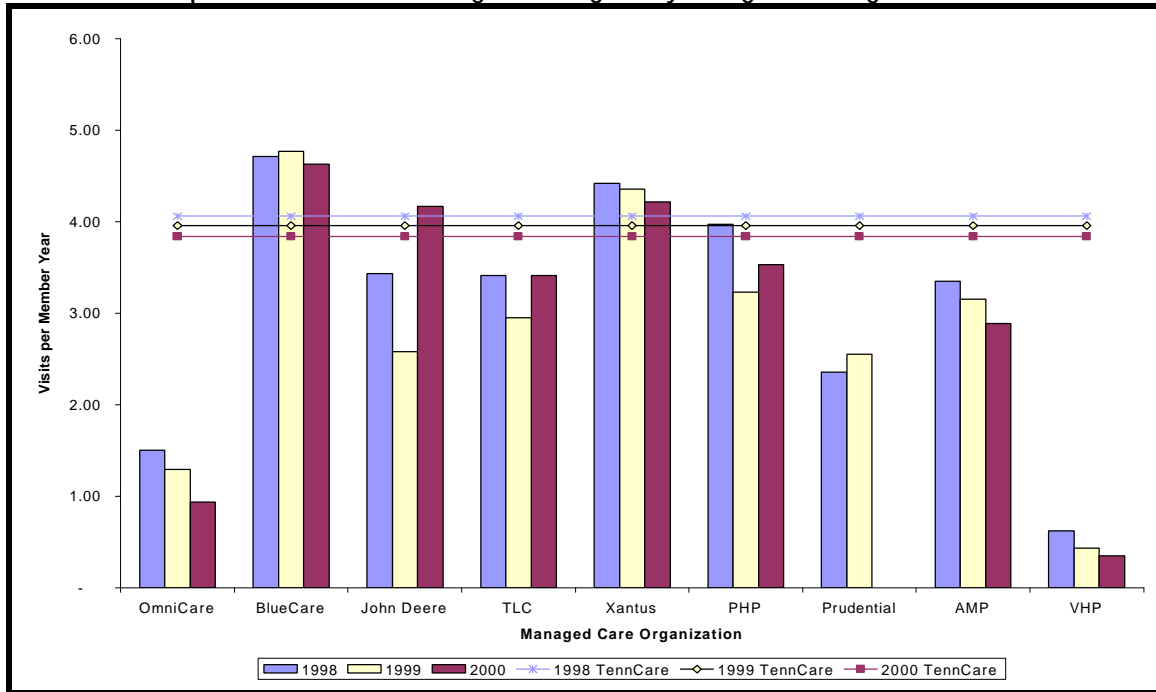
Overall TennCare analysis shows that primary care physician visits per member year decreased from 4.06 visits per member year in 1998 to 3.84 visits per member year in 2000. Individual MCO performance shows varying patterns, with OmniCare, Xantus, Access Med Plus, and VHP with progressively lower results over time, while John Deere, TLC, and PHP decreased in 1999 then increased in 2000. BlueCare and Xantus are the only MCOs consistently at or exceeding the TennCare average across the three years reported. VHP and OmniCare performed considerably lower than the other MCOs. With respect to CSA, the urban areas of Davidson, Hamilton, Knox, and Shelby counties were consistently below the TennCare averages. The Upper Cumberland CSA had the highest rate of PCP visits each year.

**Table 5.1**  
**Rate of Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by MCO and CSA**

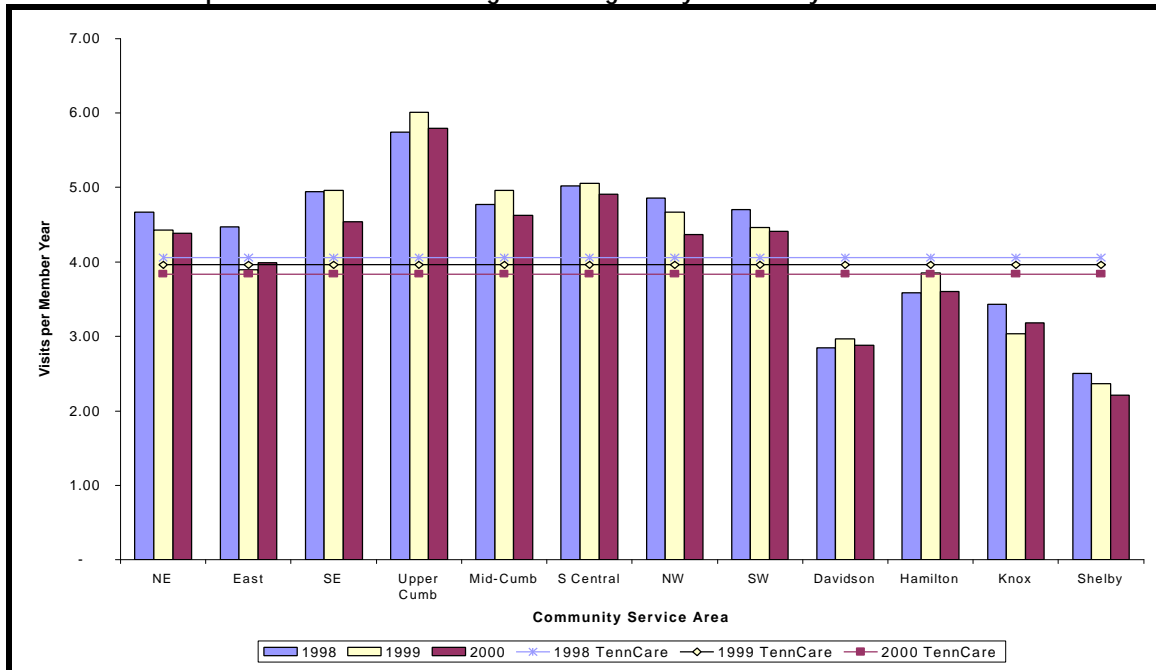
	1998	1999	2000
<b>TennCare</b>	4.06	3.96	3.84
<b>MCO</b>			
OmniCare	1.50	1.29	0.93
BlueCare	4.72	4.77	4.63
John Deere	3.44	2.58	4.16
TLC	3.42	2.95	3.42
Xantus	4.42	4.36	4.22
PHP	3.97	3.23	3.53
Prudential	2.35	2.55	n/a
AMP	3.35	3.15	2.88
VHP	0.62	0.43	0.35
<b>CSA</b>			
Northeast	4.67	4.43	4.38
East	4.47	3.89	3.99
Southeast	4.95	4.96	4.54
Upper Cumberland	5.75	6.01	5.79
Mid-Cumberland	4.77	4.96	4.62
South Central	5.02	5.06	4.91
Northwest	4.86	4.67	4.37
Southwest	4.71	4.46	4.41
Davidson	2.85	2.97	2.88
Hamilton	3.59	3.85	3.60
Knox	3.43	3.04	3.18
Shelby	2.50	2.37	2.21



**Figure 5.1**  
**Rate of Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by Managed Care Organization**



**Figure 5.2**  
**Rate of Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by Community Service Area**



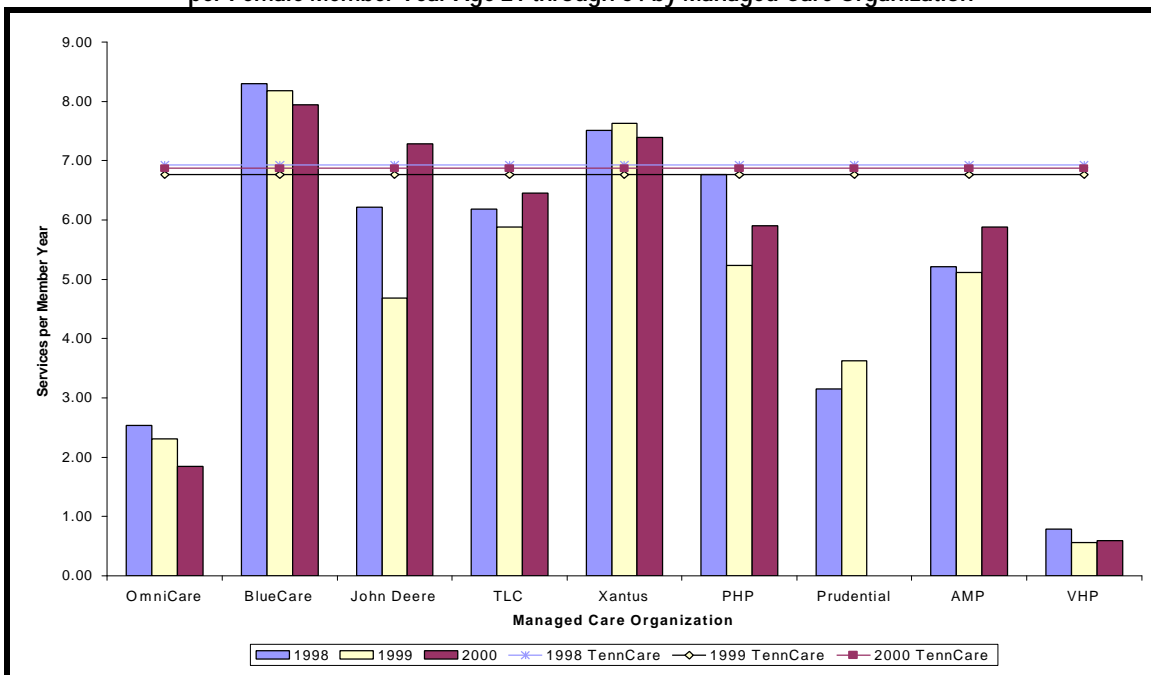
## Primary Care Physician Services

The trend for primary care services is somewhat different than that for primary care visits, with the overall TennCare rate decreasing from 1998 to 1999 (6.93 to 6.76 visits per member year) but then increasing slightly in 2000 (6.87 visits per member year). BlueCare and OmniCare had lower results each year reported, while John Deere, TLC, and Access Med Plus had a higher 2000 rate over 1998. No MCO consistently increased each year over the reporting period. Again, only BlueCare and Xantus performed consistently above the TennCare average, and performance for OmniCare and VHP was consistently lower than that of the other MCOs. With respect to CSA, results were similar to those for primary care visits. The rate was highest all years reported for the Upper Cumberland CSA, and Davidson, Hamilton, Knox, and Shelby Counties were consistently below the TennCare average.

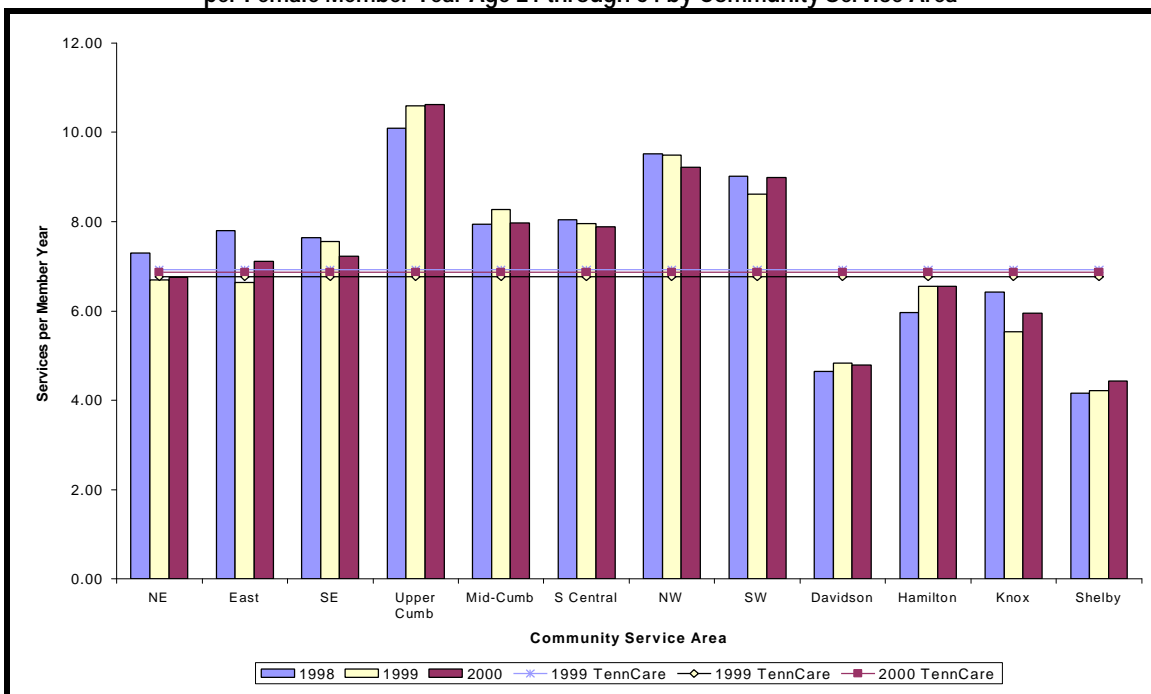
**Table 5.2**  
**Rate of Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	6.93	6.76	6.87
<b>MCO</b>			
OmniCare	2.54	2.31	1.85
BlueCare	8.30	8.18	7.94
John Deere	6.21	4.68	7.28
TLC	6.18	5.88	6.46
Xantus	7.50	7.63	7.39
PHP	6.77	5.23	5.90
Prudential	3.15	3.63	n/a
AMP	5.21	5.12	5.88
VHP	0.79	0.56	0.59
<b>CSA</b>			
Northeast	7.29	6.70	6.75
East	7.80	6.64	7.12
Southeast	7.64	7.56	7.23
Upper Cumberland	10.09	10.59	10.62
Mid-Cumberland	7.95	8.28	7.97
South Central	8.05	7.96	7.88
Northwest	9.52	9.49	9.22
Southwest	9.02	8.61	8.98
Davidson	4.64	4.83	4.79
Hamilton	5.97	6.56	6.55
Knox	6.43	5.53	5.95
Shelby	4.16	4.22	4.43

**Figure 5.3**  
**Rate of Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by Managed Care Organization**



**Figure 5.4**  
**Rate of Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by Community Service Area**





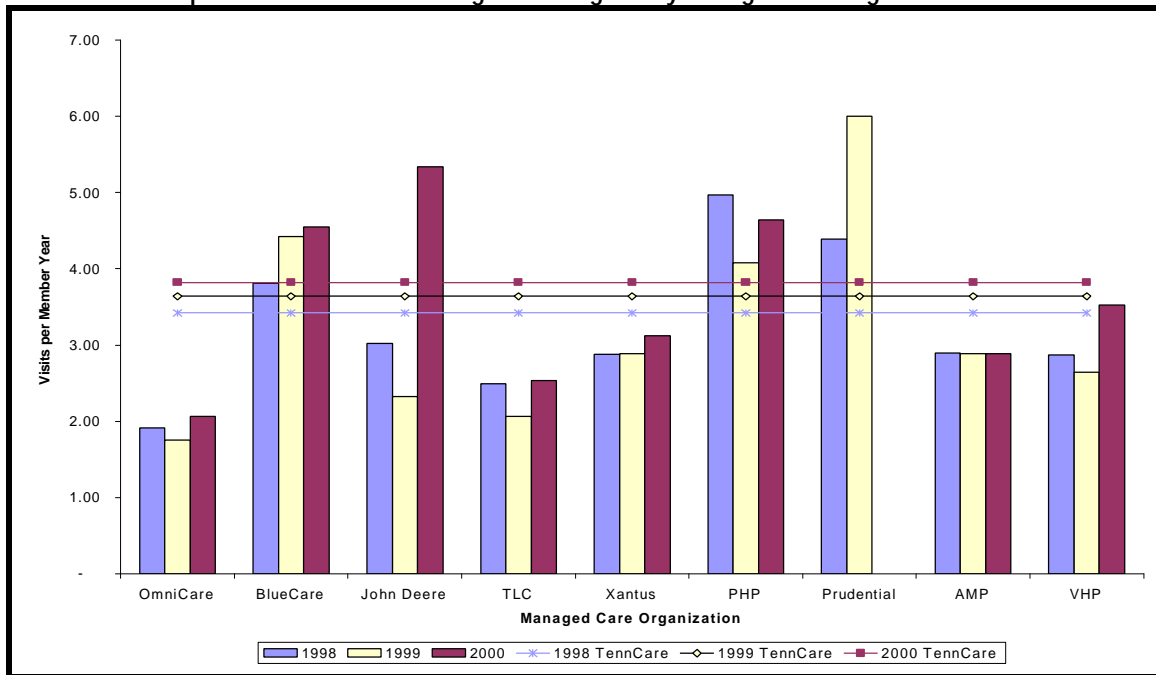
## Non-Primary Care Physician Visits

Contrary to the pattern seen with primary care physician visits, visits to non-primary care physicians increased from 1998 to 2000 (3.42 to 3.82 visits per member year). Performance for BlueCare, PHP, and Prudential was consistently higher than the TennCare average, while results for OmniCare, TLC, Xantus, Access Med Plus, and VHP were lower than the TennCare average each year. Only the Northwest, Southwest, Davidson, and Shelby CSAs were consistently below the TennCare average.

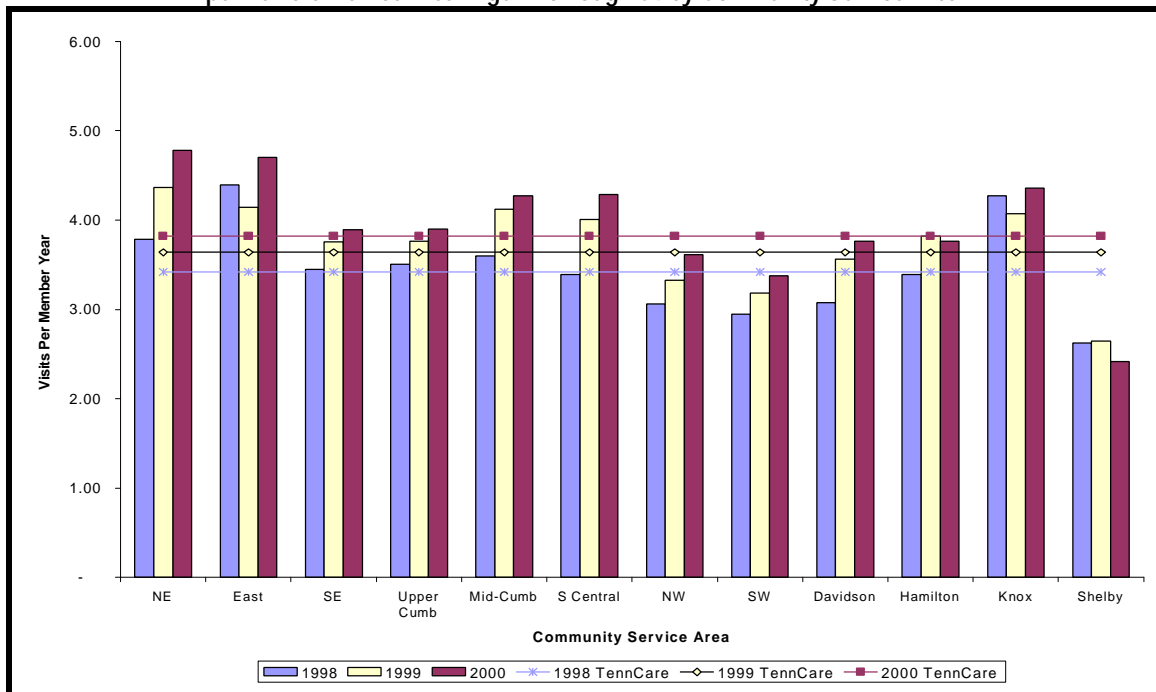
**Table 5.3**  
**Rate of Non-Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	3.42	3.64	3.82
<b>MCO</b>			
OmniCare	1.91	1.76	2.06
BlueCare	3.81	4.43	4.55
John Deere	3.02	2.33	5.34
TLC	2.49	2.07	2.54
Xantus	2.88	2.88	3.12
PHP	4.97	4.08	4.64
Prudential	4.39	6.00	n/a
AMP	2.90	2.89	2.89
VHP	2.87	2.64	3.53
<b>CSA</b>			
Northeast	3.79	4.37	4.78
East	4.40	4.14	4.70
Southeast	3.45	3.76	3.89
Upper Cumberland	3.51	3.76	3.90
Mid-Cumberland	3.60	4.12	4.27
South Central	3.40	4.01	4.29
Northwest	3.06	3.33	3.61
Southwest	2.95	3.19	3.38
Davidson	3.08	3.57	3.76
Hamilton	3.39	3.83	3.77
Knox	4.27	4.07	4.36
Shelby	2.63	2.65	2.42

**Figure 5.5**  
**Rate of Non-Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by Managed Care Organization**



**Figure 5.6**  
**Rate of Non-Primary Care Physician Visits**  
**per Female Member Year Age 21 through 64 by Community Service Area**



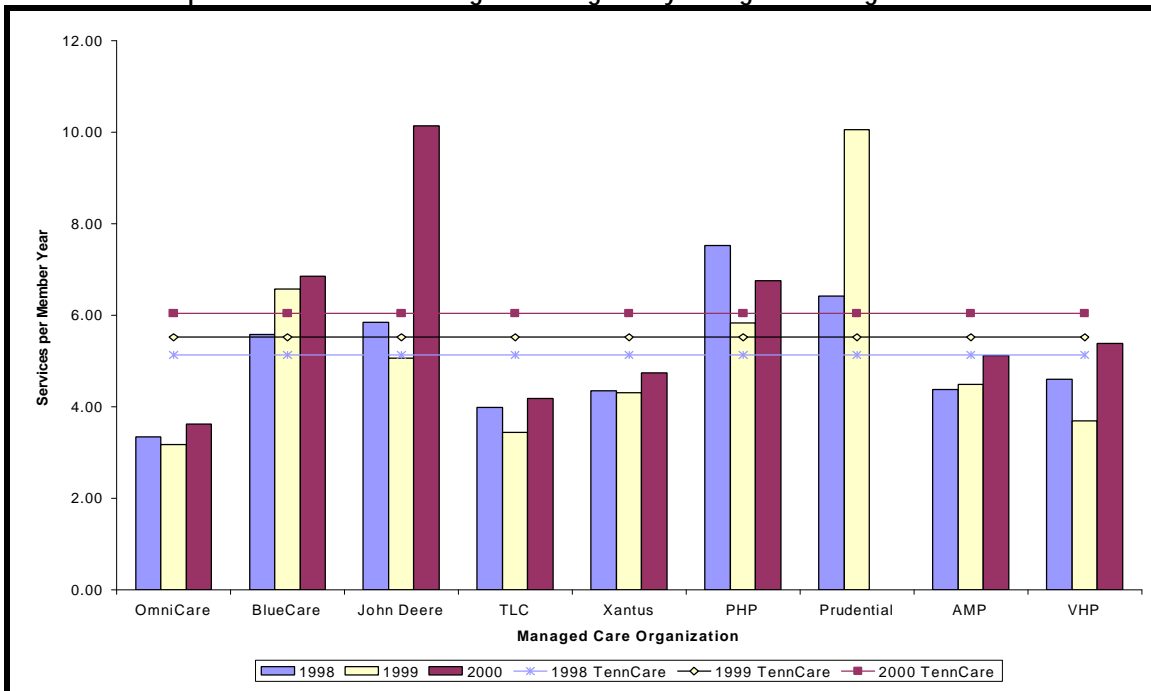
## Non-Primary Care Physician Services

Like non-primary care physician visits, non-primary care physician services increased from 1998 to 2000 (5.13 to 6.04 services per member year). MCO and CSA trends representing delivery of non-primary care physician services closely resemble non-primary care physician visits. One minor difference is that while 2000 results for the Shelby CSA decreased with respect to visits, the service rate was higher than both 1998 and 1999.

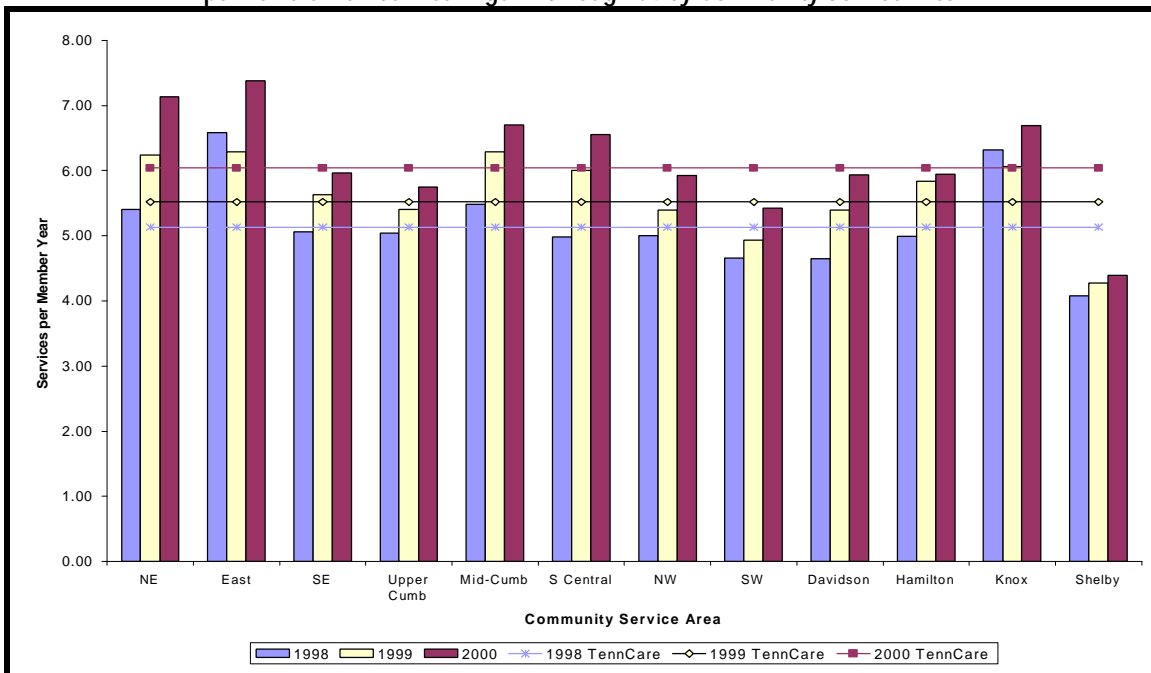
**Table 5.4**  
**Rate of Non-Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	5.13	5.52	6.04
<b>MCO</b>			
OmniCare	3.34	3.17	3.62
BlueCare	5.58	6.58	6.85
John Deere	5.85	5.07	10.14
TLC	3.98	3.43	4.18
Xantus	4.35	4.31	4.74
PHP	7.53	5.83	6.76
Prudential	6.42	10.05	n/a
AMP	4.38	4.48	5.12
VHP	4.60	3.69	5.38
<b>CSA</b>			
Northeast	5.41	6.24	7.13
East	6.58	6.29	7.37
Southeast	5.07	5.63	5.96
Upper Cumberland	5.04	5.40	5.75
Mid-Cumberland	5.49	6.29	6.70
South Central	4.99	6.00	6.56
Northwest	5.00	5.40	5.93
Southwest	4.66	4.93	5.42
Davidson	4.64	5.40	5.94
Hamilton	4.99	5.83	5.94
Knox	6.32	6.07	6.69
Shelby	4.08	4.28	4.39

**Figure 5.7**  
**Rate of Non-Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by Managed Care Organization**



**Figure 5.8**  
**Rate of Non-Primary Care Physician Services**  
**per Female Member Year Age 21 through 64 by Community Service Area**





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## Inpatient Discharges

The rate of inpatient discharges for overall TennCare decreased from 176.25 per 1000 female member years age 21 through 64 in 1998 to 167.83 per 1000 in 2000. The only MCOs with results higher in 2000 than in 1998 were OmniCare, John Deere, and Access Med Plus (with a minute increase). John Deere had the highest rate in 2000, while OmniCare had the lowest. John Deere is the only MCO to consistently increase over the time period. The only CSAs with higher results in 2000 than in 1998 are South Central and Davidson.

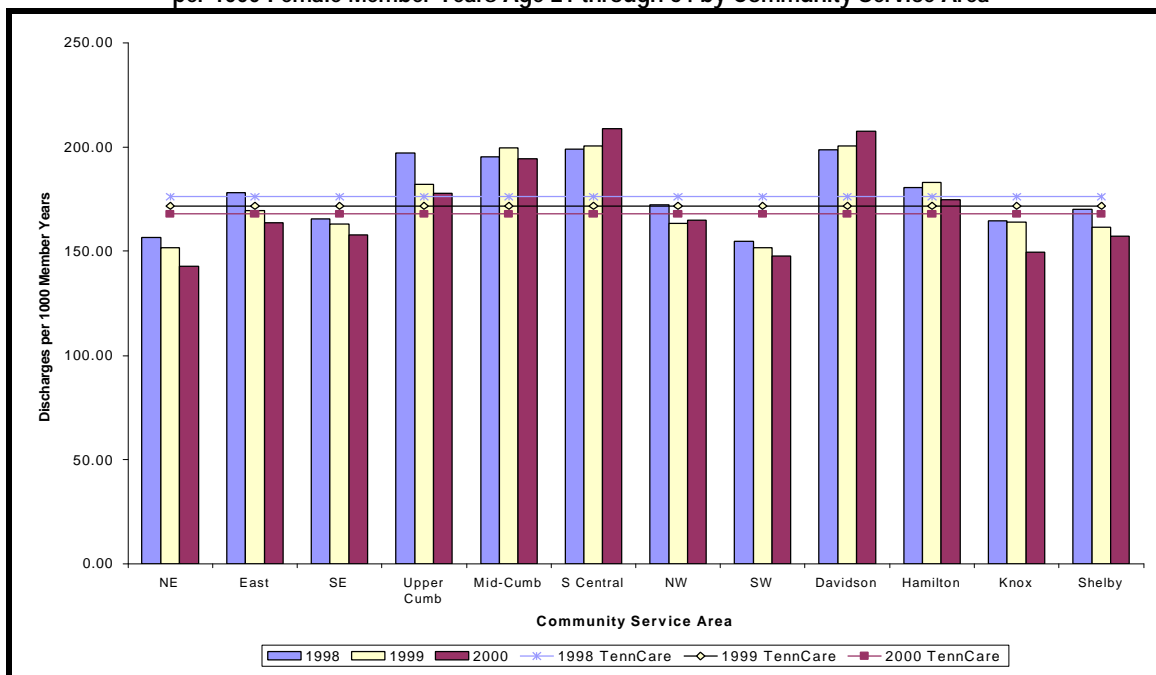
**Table 5.5**  
**Rate of Inpatient Discharges**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	176.25	171.73	167.83
<b>MCO</b>			
OmniCare	136.35	116.18	141.76
BlueCare	173.08	189.67	166.07
John Deere	145.11	162.63	183.16
TLC	187.73	168.59	168.65
Xantus	191.42	162.68	150.94
PHP	192.47	161.75	175.32
Prudential	167.75	164.62	n/a
AMP	176.17	151.46	177.43
VHP	172.18	153.54	171.48
<b>CSA</b>			
Northeast	156.70	151.57	142.67
East	178.25	169.39	163.81
Southeast	165.68	163.23	157.74
Upper Cumberland	197.16	182.03	177.82
Mid-Cumberland	195.32	199.71	194.32
South Central	199.02	200.45	208.93
Northwest	172.18	163.34	164.98
Southwest	154.87	151.76	147.62
Davidson	198.80	200.39	207.50
Hamilton	180.51	182.99	174.57
Knox	164.50	163.87	149.59
Shelby	170.01	161.37	157.13

**Figure 5.9**  
**Rate of Inpatient Discharges**  
**per 1000 Female Member Years Age 21 through 64 by Managed Care Organization**



**Figure 5.10**  
**Rate of Inpatient Discharges**  
**per 1000 Female Member Years Age 21 through 64 by Community Service Area**



## Inpatient Bed Days

The trend for inpatient bed days over time follows that of inpatient discharges presented above. The rate of days was higher in 1998 (727.87 per 1000) than in 2000 (672.71 per 1000). The most noteworthy results were for PHP, with a drop of nearly 40 percent from 1998 to 1999 but 2000 results were very similar to the 1999 rate. As was seen with discharges, John Deere was the only MCO to consistently increase over all years reported. VHP and Prudential are the only MCOs consistently below the TennCare average, while the Northeast, Southeast, Upper Cumberland, Northwest, and Southwest CSAs were consistently below.

**Table 5.6**  
**Rate of Inpatient Bed Days**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	727.87	687.31	672.71
<b>MCO</b>			
OmniCare	628.64	524.40	713.69
BlueCare	699.59	738.94	669.68
John Deere	883.56	955.92	972.37
TLC	758.15	655.53	698.53
Xantus	739.80	639.94	544.92
PHP	1087.34	641.35	639.68
Prudential	530.96	594.15	n/a
AMP	676.25	621.73	691.30
VHP	599.87	576.12	616.07
<b>CSA</b>			
Northeast	602.11	616.70	598.48
East	856.41	647.96	643.45
Southeast	595.22	609.69	593.74
Upper Cumberland	691.78	596.82	604.08
Mid-Cumberland	460.63	753.73	737.22
South Central	672.23	745.11	785.85
Northwest	648.87	601.51	629.21
Southwest	648.75	572.78	571.69
Davidson	836.05	829.37	861.15
Hamilton	754.08	774.83	710.45
Knox	810.82	686.61	624.74
Shelby	733.48	765.84	711.41

Figure 5.11  
Rate of Inpatient Bed Days  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

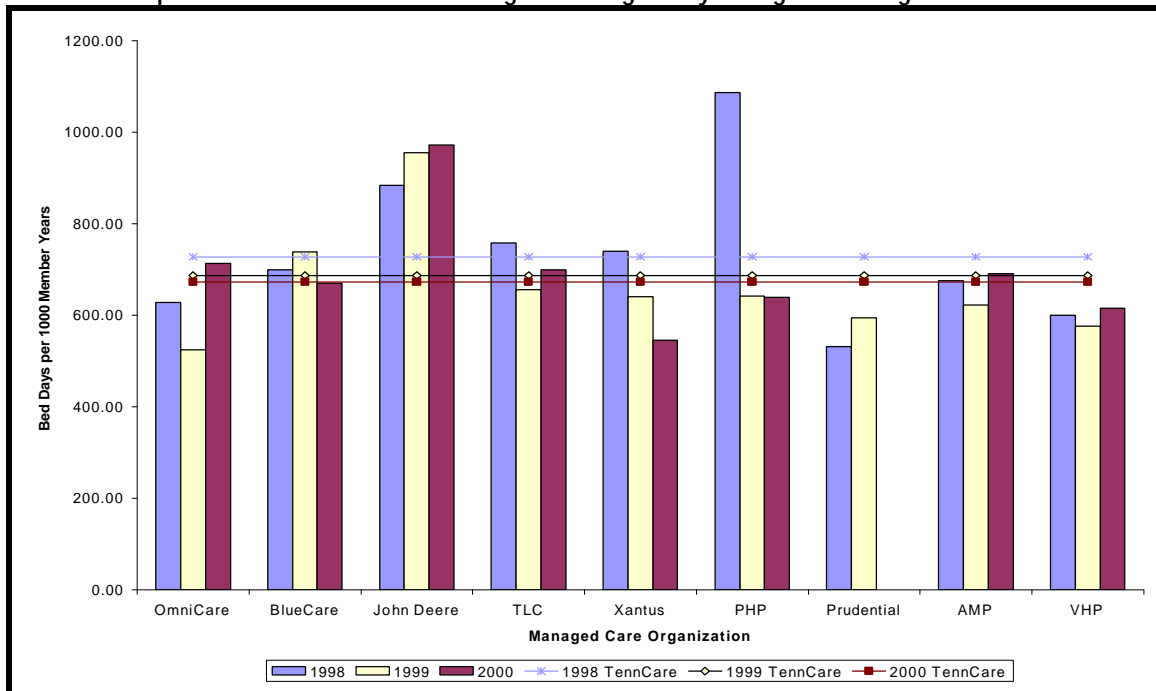
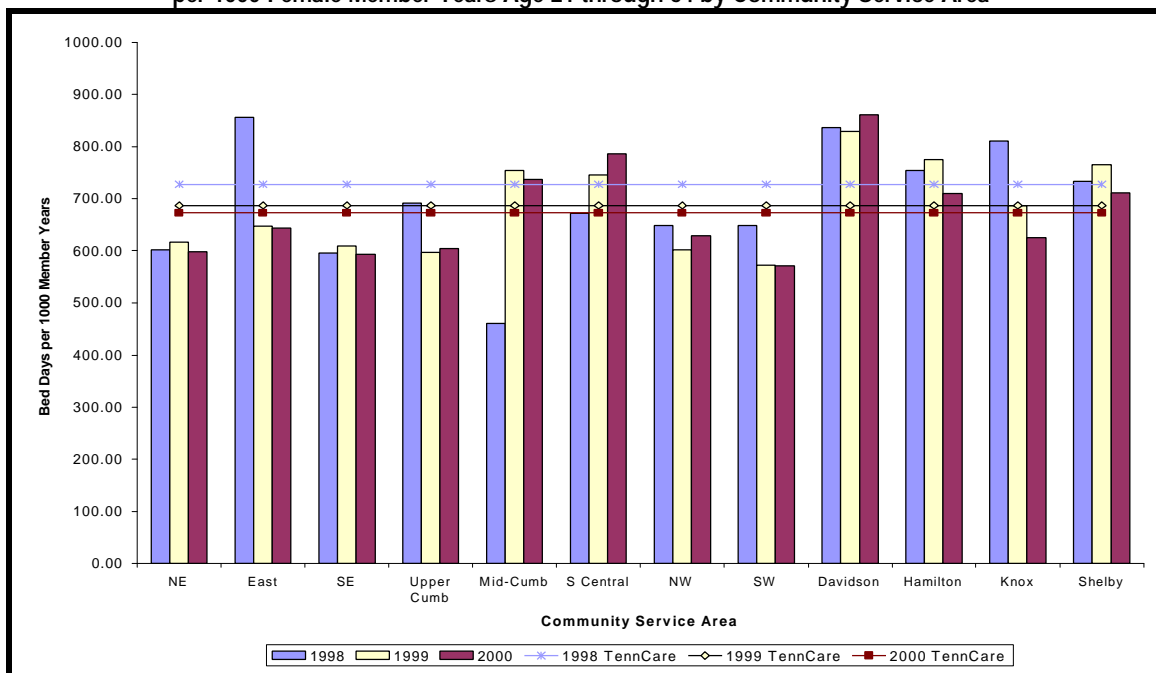


Figure 5.12  
Rate of Inpatient Bed Days  
per 1000 Female Member Years Age 21 through 64 by Community Service Area



## Average Length of Inpatient Stay

The TennCare average length of inpatient stay decreased from 1998 to 1999 (4.13 to 4.00 days) and remained stable in 2000 (4.01 days). John Deere had the longest average length of stay all three years, but it did decrease each year. The average length of stay was longer in 2000 than in 1998 for OmniCare and TLC, as well as the Northeast, Southeast, Mid-Cumberland, South Central, and Northwest CSAs. Those with length of stay consistently at or below the TennCare average were MCOs BlueCare, Xantus, Prudential, and VHP, and the Southeast, Upper Cumberland, Mid-Cumberland, South Central, and Northwest CSAs.

**Table 5.7**  
**Average Length of Inpatient Stay**  
**for Females Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	4.13	4.00	4.01
<b>MCO</b>			
OmniCare	4.61	4.51	5.03
BlueCare	4.04	3.90	4.03
John Deere	6.09	5.88	5.31
TLC	4.04	3.89	4.14
Xantus	3.86	3.93	3.61
PHP	5.65	3.96	3.65
Prudential	3.17	3.61	n/a
AMP	3.84	4.11	3.90
VHP	3.48	3.75	3.59
<b>CSA</b>			
Northeast	3.84	4.07	4.19
East	4.80	3.83	3.93
Southeast	3.59	3.74	3.76
Upper Cumberland	3.51	3.28	3.40
Mid-Cumberland	2.36	3.77	3.79
South Central	3.38	3.72	3.76
Northwest	3.77	3.68	3.81
Southwest	4.19	3.77	3.87
Davidson	4.21	4.14	4.15
Hamilton	4.18	4.23	4.07
Knox	4.93	4.19	4.18
Shelby	4.31	4.75	4.53

Figure 5.13  
Average Length of Inpatient Stay  
for Females Age 21 through 64 by Managed Care Organization

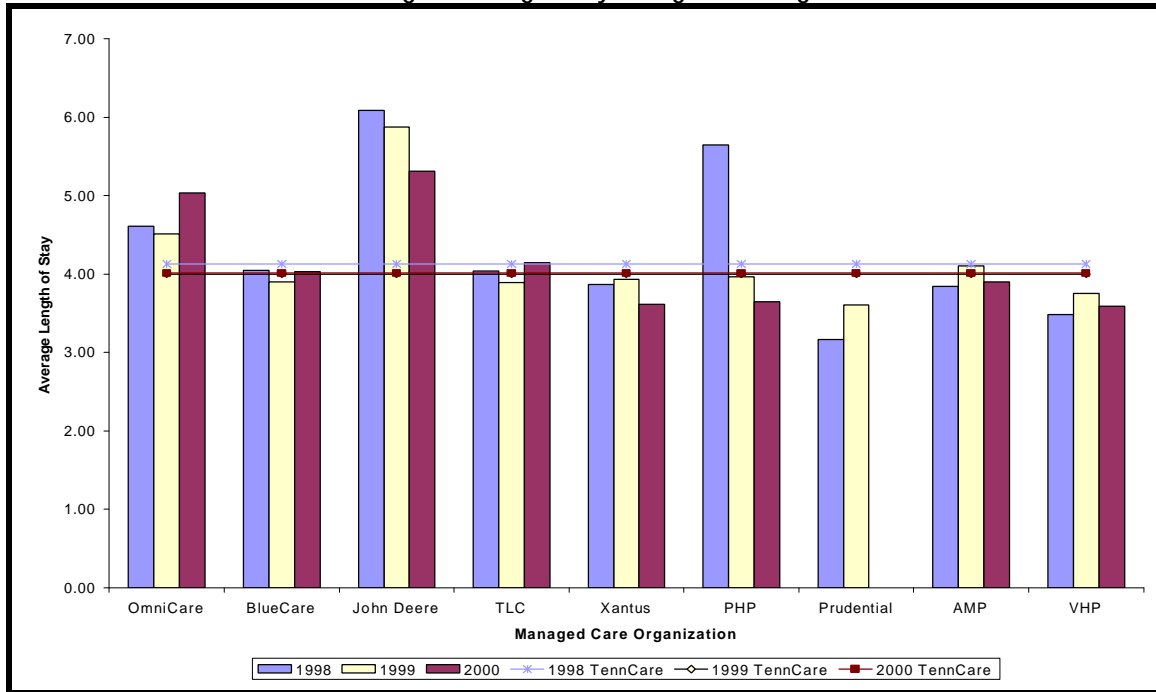
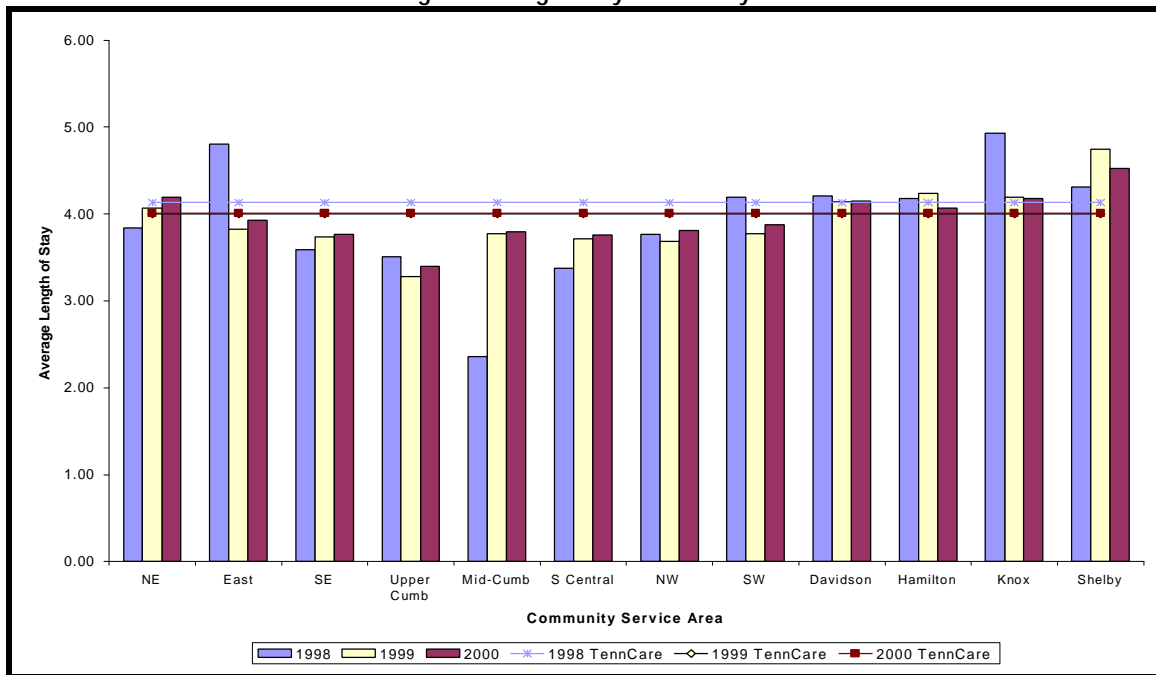


Figure 5.14  
Average Length of Inpatient Stay  
for Females Age 21 through 64 by Community Service Area



## Hospitalizations for Ambulatory Care Sensitive Conditions

The TennCare trend for hospitalizations for ambulatory care sensitive (ACS) conditions follows that for all inpatient discharges. The rate decreased from 25.72 per 1000 in 1998 to 24.52 per 1000 in 2000. Only OmniCare had 2000 results higher than those from 1998, although the rate for OmniCare was considerably lower than the TennCare average and most other MCOs across the three years reported. With respect to CSA, the Upper Cumberland and South Central CSAs had results consistently higher than the other CSAs, with the 2000 rate greater than in 1999 for both.

**Table 5.8**  
**Rate of Hospitalizations for Ambulatory Care Sensitive (ACS) Conditions**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	25.72	24.68	24.52
<b>MCO</b>			
OmniCare	17.23	17.34	17.89
BlueCare	27.48	27.04	26.94
John Deere	21.36	20.37	18.53
TLC	22.52	21.76	19.40
Xantus	25.67	23.52	23.26
PHP	26.46	25.45	25.58
Prudential	14.15	15.32	n/a
AMP	24.90	22.28	23.28
VHP	25.29	30.84	20.64
<b>CSA</b>			
Northeast	19.45	20.89	18.51
East	29.54	27.06	25.21
Southeast	26.86	25.66	24.15
Upper Cumberland	35.49	31.40	34.22
Mid-Cumberland	27.24	27.67	26.91
South Central	34.23	31.36	36.40
Northwest	26.03	27.19	29.23
Southwest	22.25	22.62	23.25
Davidson	27.55	27.31	25.65
Hamilton	24.48	22.80	23.91
Knox	20.38	21.21	18.56
Shelby	21.89	19.43	19.99



Figure 5.15  
Rate of Hospitalizations for Ambulatory Care Sensitive Conditions  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

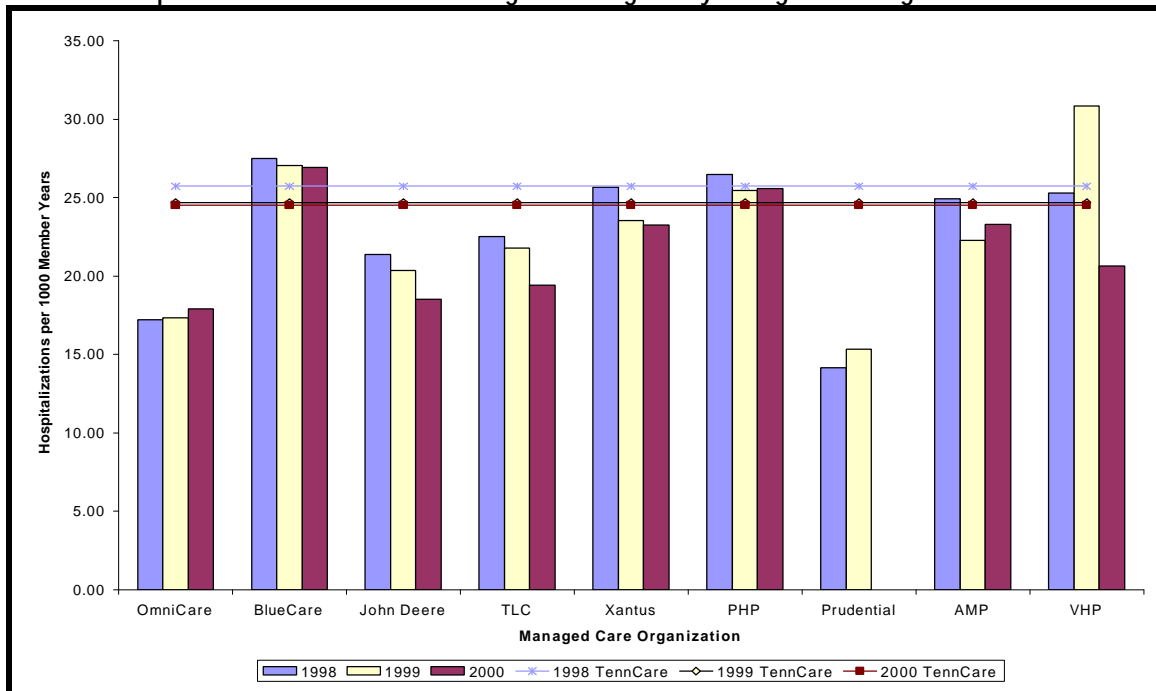
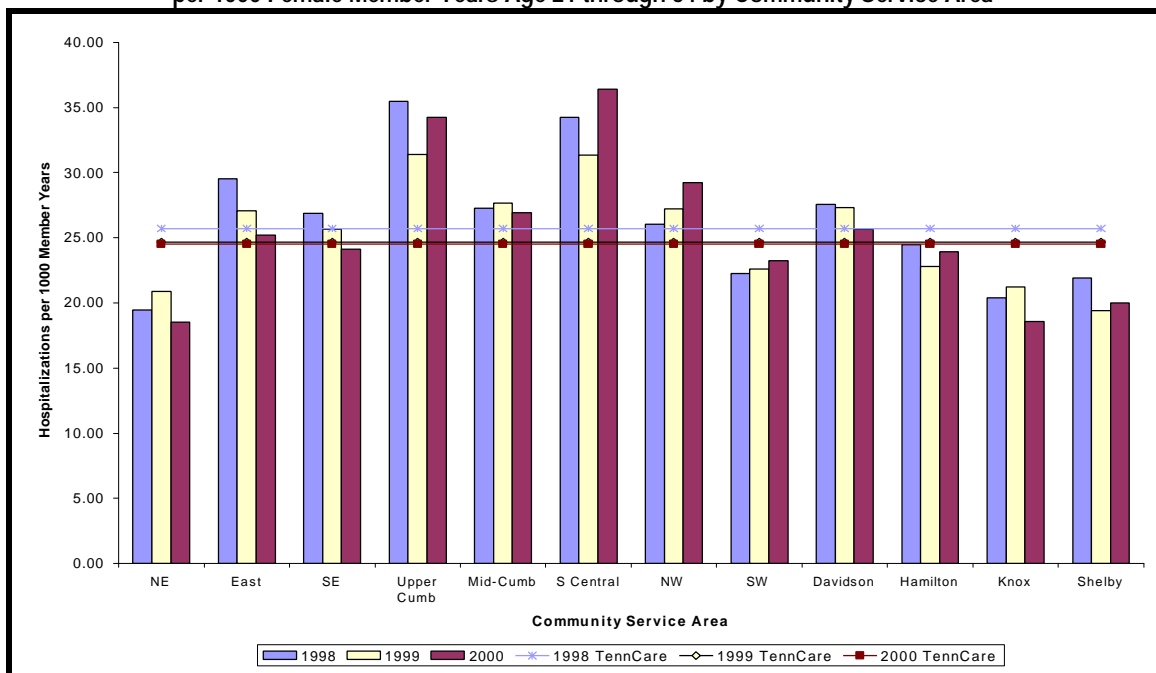


Figure 5.16  
Rate of Hospitalizations for Ambulatory Care Sensitive Conditions  
per 1000 Female Member Years Age 21 through 64 by Community Service Area





## ER Visits

The rate of ER visits for overall TennCare increased considerably across the three year reporting period, from 646.68 per 1000 in 1998 to 821.14 per 1000 in 2000. All MCOs and CSAs increased over the time period as well. Six of the MCOs were consistently below the TennCare average; only BlueCare, John Deere, and PHP were at or above the average each year. Conversely, only the South Central, Northwest, Southwest, and Shelby CSAs were consistently below the TennCare average, and results for South Central and Southwest were near the average.

**Table 5.9**  
**Rate of ER Visits**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	646.68	750.17	821.14
<b>MCO</b>			
OmniCare	525.02	577.59	642.42
BlueCare	704.39	842.89	882.13
John Deere	693.39	746.52	872.77
TLC	479.48	458.53	536.95
Xantus	536.82	631.34	725.49
PHP	801.18	900.34	989.72
Prudential	305.42	340.67	n/a
AMP	617.23	673.14	787.30
VHP	509.08	706.69	717.05
<b>CSA</b>			
Northeast	766.03	967.56	1,053.49
East	801.22	879.84	958.78
Southeast	736.53	822.42	930.87
Upper Cumberland	708.10	840.19	874.41
Mid-Cumberland	656.29	780.85	917.37
South Central	628.54	737.45	789.78
Northwest	500.24	591.50	657.83
Southwest	536.15	653.00	696.81
Davidson	643.08	800.10	886.56
Hamilton	704.68	808.21	854.89
Knox	834.71	931.36	979.93
Shelby	440.33	468.97	519.54

Figure 5.17  
Rate of ER Visits  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

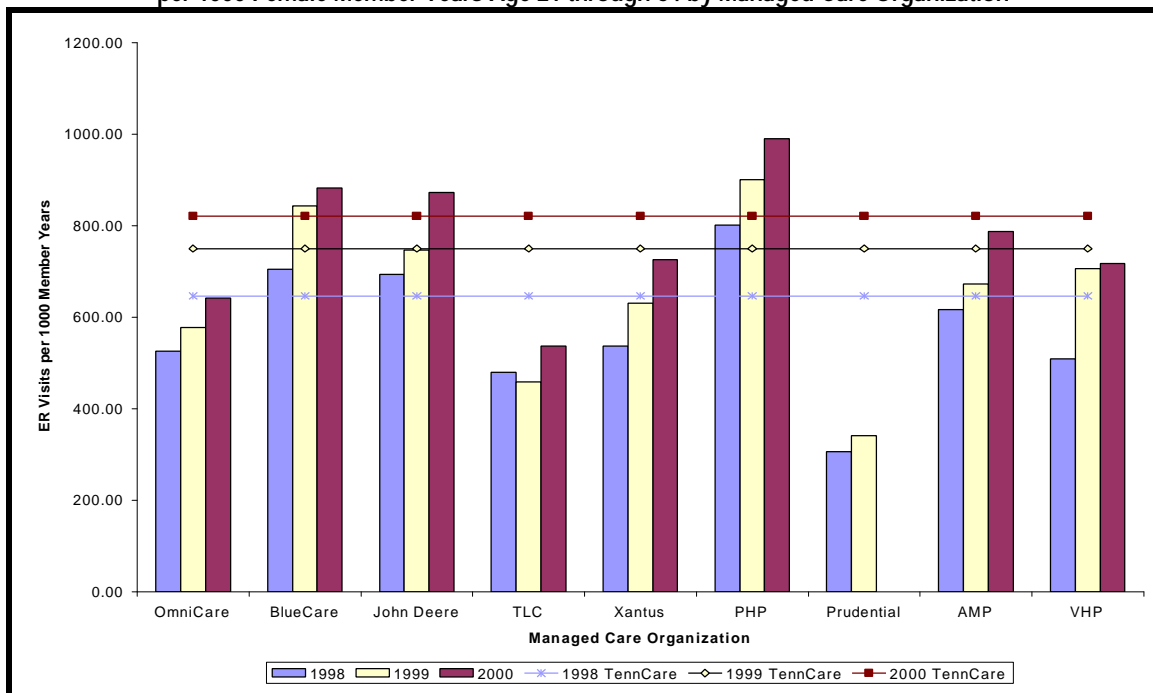
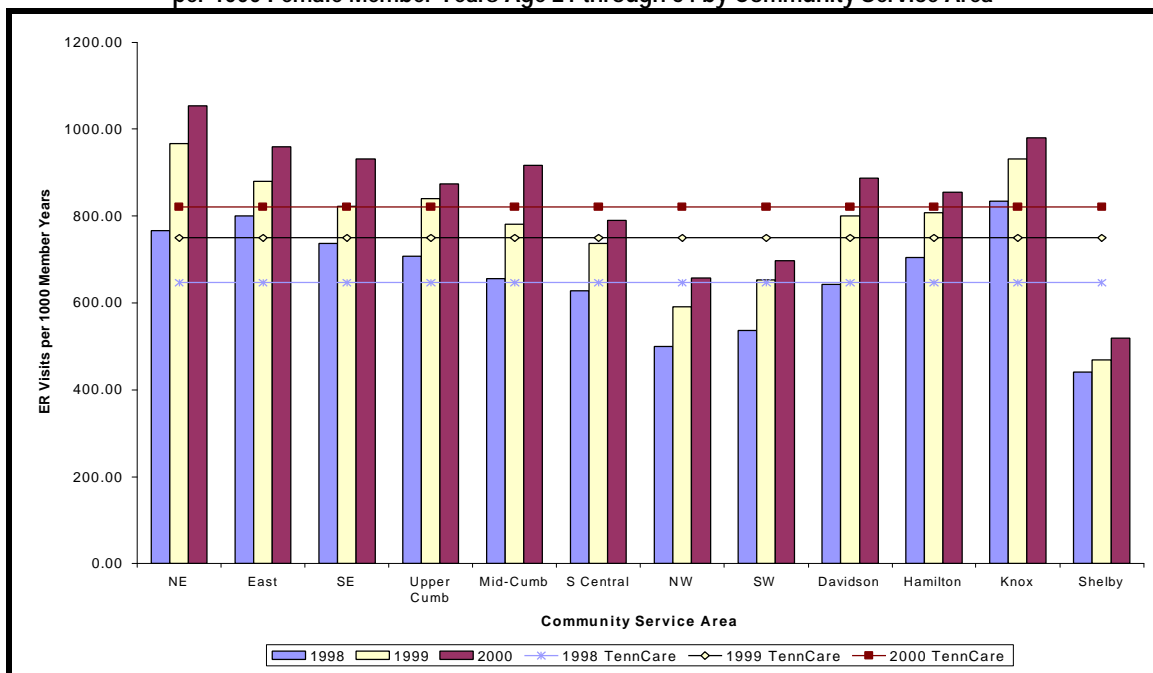


Figure 5.18  
Rate of ER Visits  
per 1000 Female Member Years Age 21 through 64 by Community Service Area



## Pap Smears

The trend for overall TennCare and most MCOs in the delivery of pap smears was an increase from 1998 to 2000. The TennCare average is 214.73 per 1000 female member years for 1998, compared to 226.25 in 1999, and 247.89 in 2000. Rates for Xantus were consistently lower than most other MCOs across the three year reporting period. MCOs with the highest screening rates were John Deere in 1998 and 2000 and BlueCare in 1999. CSAs with performance consistently at or below the TennCare average were South Central, Northwest, Southwest, Davidson, and Shelby.

**Table 5.10**  
**Rate of Pap Smears**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	214.73	226.25	247.89
<b>MCO</b>			
OmniCare	227.30	193.69	245.64
BlueCare	260.17	276.81	275.52
John Deere	287.16	209.61	326.44
TLC	186.09	116.23	247.86
Xantus	99.30	87.47	75.61
PHP	278.40	253.94	304.22
Prudential	14.15	164.90	n/a
AMP	180.36	214.01	239.96
VHP	249.68	219.82	327.09
<b>CSA</b>			
Northeast	266.77	272.56	290.61
East	267.99	262.86	284.58
Southeast	199.29	237.31	258.70
Upper Cumberland	216.37	238.90	235.70
Mid-Cumberland	217.63	247.05	253.88
South Central	167.25	212.20	225.35
Northwest	211.20	194.10	205.02
Southwest	213.95	187.48	213.01
Davidson	192.97	211.12	235.98
Hamilton	146.14	222.48	272.70
Knox	254.56	238.19	251.49
Shelby	190.28	196.22	238.04

Figure 5.19  
Rate of Pap Smears  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

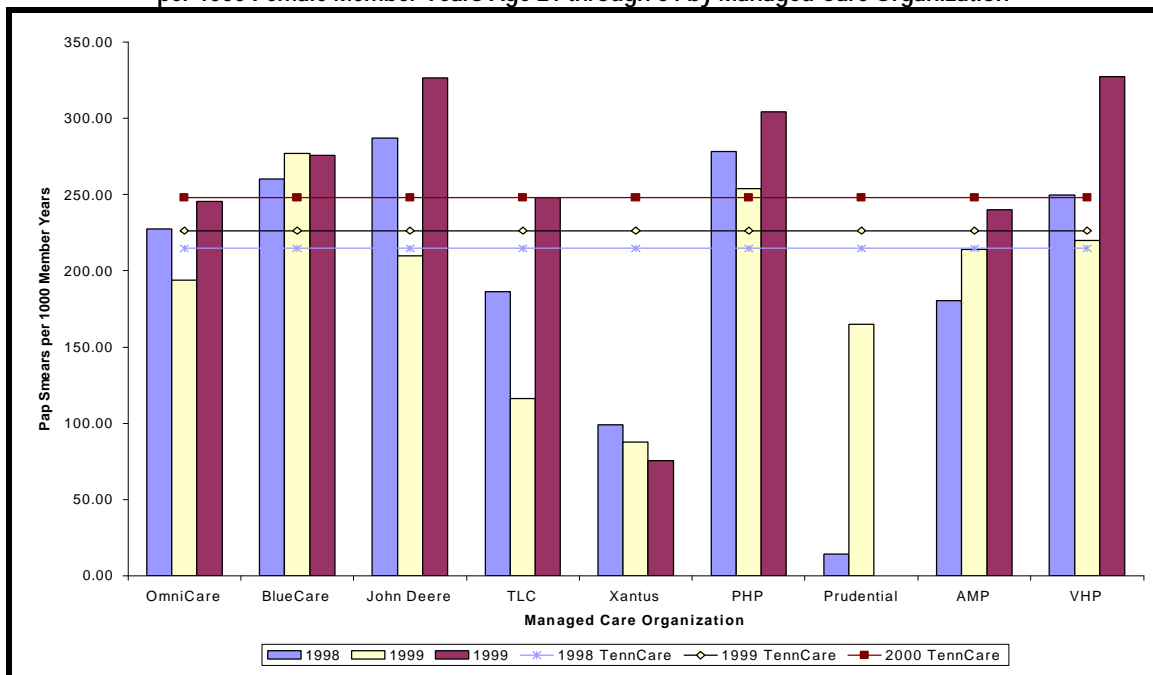
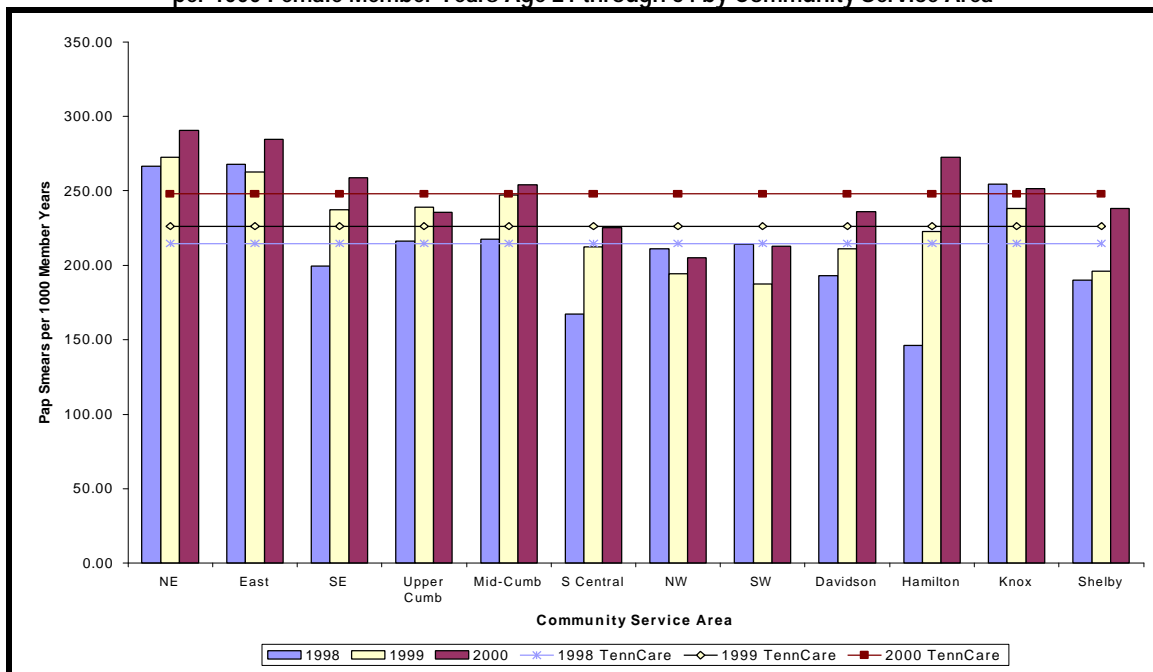


Figure 5.20  
Rate of Pap Smears  
per 1000 Female Member Years Age 21 through 64 by Community Service Area



## Mammograms

Delivery of mammograms increased somewhat from 1998 to 1999 then decreased slightly in 2000 for TennCare women between the ages of 52 and 69, from 214.68 to 238.04 to 234.99 per 1000 member years. All MCOs and CSAs, with the exception of Knox County, display results that increased at least slightly over the three year reporting period. Performance for BlueCare, TLC, and PHP was consistently above the TennCare average. Results for a number of CSAs were above the TennCare average, including Northeast, East, Southeast, Mid-Cumberland, and Hamilton.

**Table 5.11**  
**Rate of Mammograms**  
**per 1000 Female Member Years Age 52 through 69 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	214.68	238.04	234.99
<b>MCO</b>			
OmniCare	202.20	212.11	212.60
BlueCare	221.92	254.90	249.16
John Deere	229.43	207.72	259.38
TLC	247.59	251.76	251.19
Xantus	213.43	214.78	216.72
PHP	237.54	246.37	248.61
Prudential	205.93	223.90	n/a
AMP	185.24	209.18	199.30
VHP	225.92	219.08	258.39
<b>CSA</b>			
Northeast	234.71	256.63	264.55
East	231.13	250.51	253.59
Southeast	238.89	266.57	255.37
Upper Cumberland	209.03	234.46	226.13
Mid-Cumberland	229.87	267.52	256.33
South Central	191.91	230.22	236.56
Northwest	197.42	210.51	219.08
Southwest	188.81	214.61	209.34
Davidson	201.64	231.10	237.05
Hamilton	255.58	298.45	271.59
Knox	236.95	219.05	211.78
Shelby	185.45	209.39	195.26

Figure 5.21  
Rate of Mammograms  
per 1000 Female Member Years Age 52 through 69 by Managed Care Organization

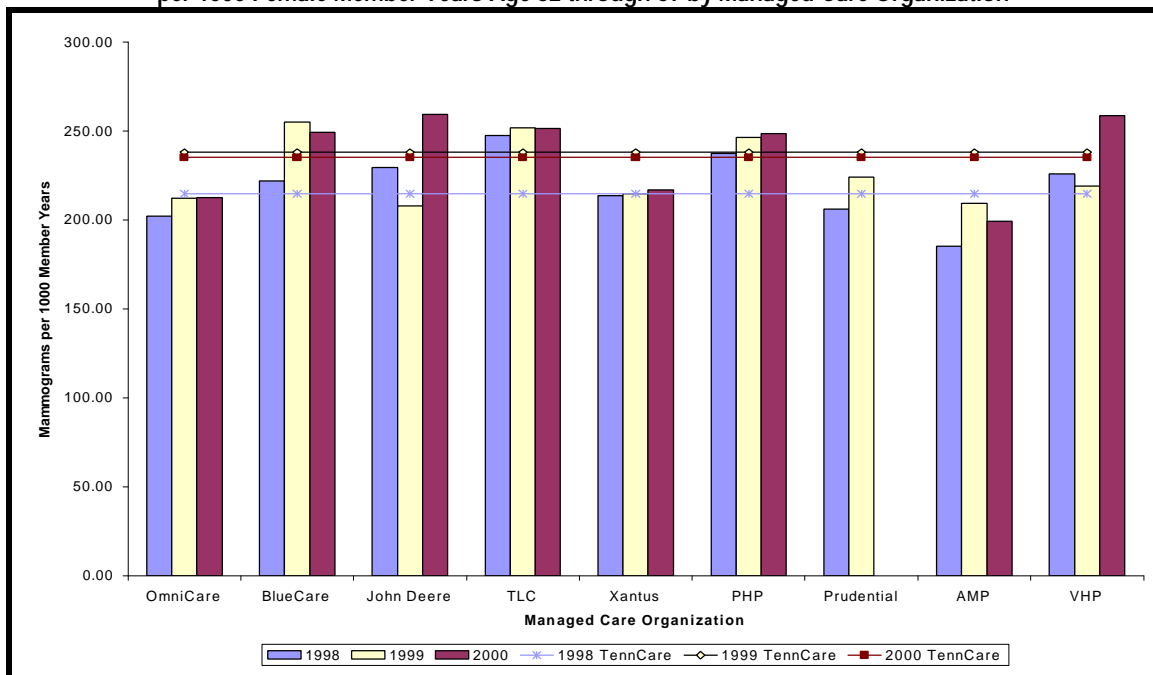
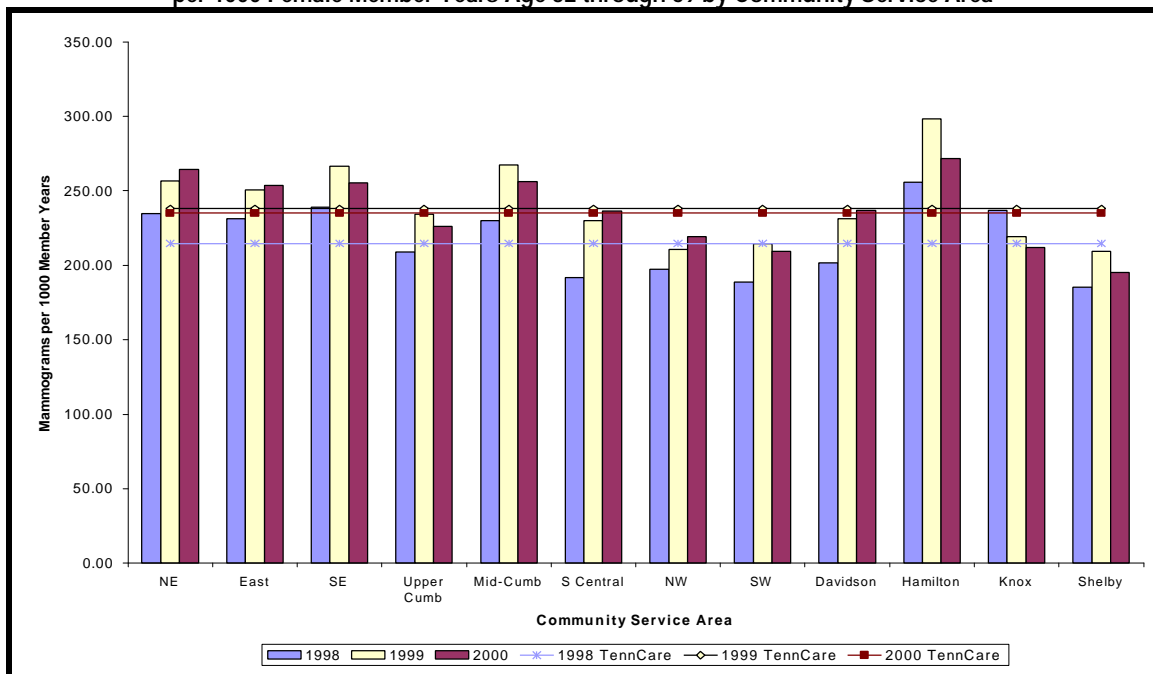


Figure 5.22  
Rate of Mammograms  
per 1000 Female Member Years Age 52 through 69 by Community Service Area





## Hysterectomies

There is considerable variation in the rate of hysterectomies across the MCOs. OmniCare rates are the lowest of all MCOs across all three reported years, with a rate of 1.65 per 1000 in 1998 and 3.02 per 1000 in 2000. PHP consistently had the highest results, with the highest at 8.35 per 1000 in 1998. The TennCare average decreased from 5.54 per 1000 in 1998 to 5.43 per 1000 in 2000. Three of the MCOs (BlueCare, PHP, and VHP) and five of the CSAs (Northeast, East, Southeast, Upper Cumberland, and Northwest) decreased from 1998 to 2000 as well.

**Table 5.12**  
**Rate of Hysterectomies**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	5.54	5.37	5.43
<b>MCO</b>			
OmniCare	1.65	2.66	3.02
BlueCare	6.80	6.54	5.77
John Deere	3.95	7.76	7.20
TLC	2.72	3.07	3.36
Xantus	3.15	3.11	3.66
PHP	8.35	7.79	8.33
Prudential	2.06	3.90	n/a
AMP	5.10	4.09	5.37
VHP	3.89	2.95	3.49
<b>CSA</b>			
Northeast	7.53	7.43	6.11
East	7.74	6.83	7.09
Southeast	7.18	6.33	5.46
Upper Cumberland	6.78	5.51	5.89
Mid-Cumberland	6.45	5.68	6.78
South Central	5.98	5.85	7.26
Northwest	6.58	6.09	6.27
Southwest	4.47	4.52	5.05
Davidson	4.61	4.71	4.69
Hamilton	3.62	4.99	3.92
Knox	4.80	5.93	5.21
Shelby	2.87	2.97	3.15

Figure 5.23  
Rate of Hysterectomies  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

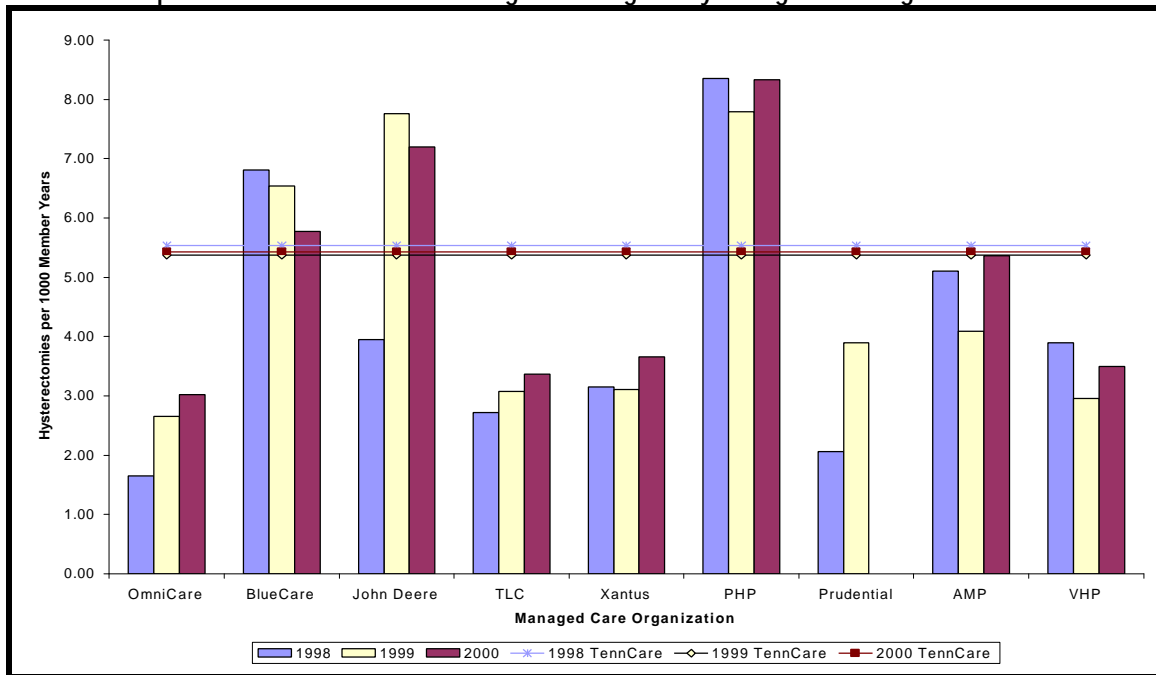
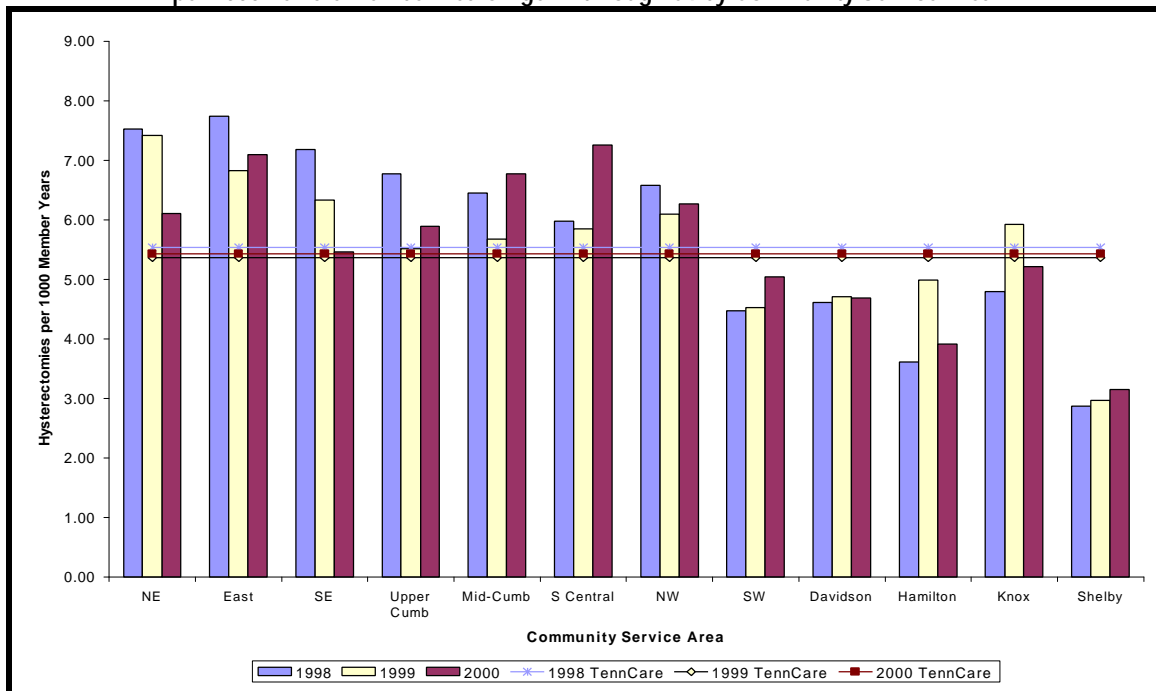


Figure 5.24  
Rate of Hysterectomies  
per 1000 Female Member Years Age 21 through 64 by Community Service Area



Section V – Utilization Data

## Mastectomies

Mastectomies were performed for very few TennCare women, and the rate decreased from 0.51 per 1000 in 1998 to 0.39 per 1000 in 1999, but then increased slightly to 0.47 per 1000 in 2000. Two MCOs (Prudential, and VHP) reported no mastectomies in 1998, and VHP reported none in 1999 as well. John Deere and TLC were the only MCOs with results consistently exceeding the TennCare average. CSA results are quite variable, likely attributable to the small numbers. Results for the Southeast, Upper Cumberland, Northwest, and Southwest CSAs dropped by nearly half or more over the reporting period, while results for Mid-Cumberland increased by that much.

**Table 5.13**  
**Rate of Mastectomies**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	0.51	0.39	0.47
<b>MCO</b>			
OmniCare	0.39	0.17	0.31
BlueCare	0.58	0.45	0.40
John Deere	1.17	0.97	0.58
TLC	0.43	0.51	0.54
Xantus	0.14	0.23	0.45
PHP	0.74	0.35	0.68
Prudential	0	0.28	n/a
AMP	0.54	0.29	0.54
VHP	0	0	0.64
<b>CSA</b>			
Northeast	0.34	0.41	0.38
East	0.65	0.44	0.70
Southeast	0.49	0.23	0.19
Upper Cumberland	0.62	0.38	0.33
Mid-Cumberland	0.30	0.49	0.73
South Central	0.60	0.57	0.42
Northwest	0.66	0.11	0.33
Southwest	0.81	0.39	0.38
Davidson	0.31	0.18	0.49
Hamilton	0.51	0.45	0.73
Knox	0.54	0.69	0.49
Shelby	0.49	0.35	0.37

Figure 5.25  
Rate of Mastectomies  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

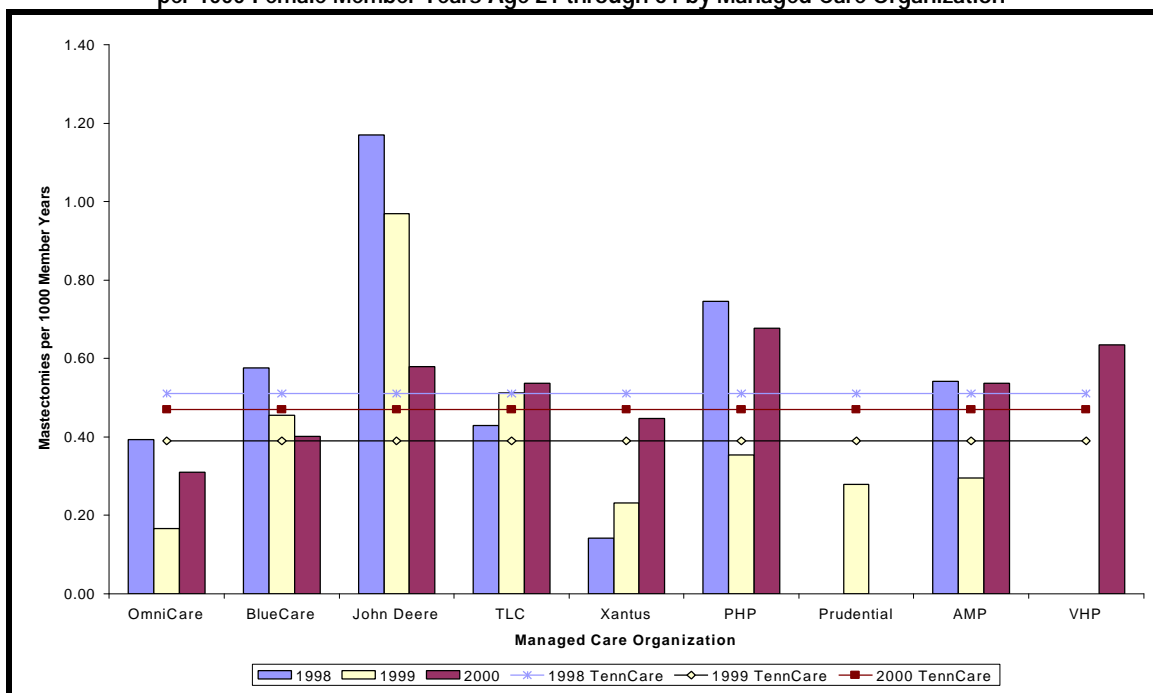
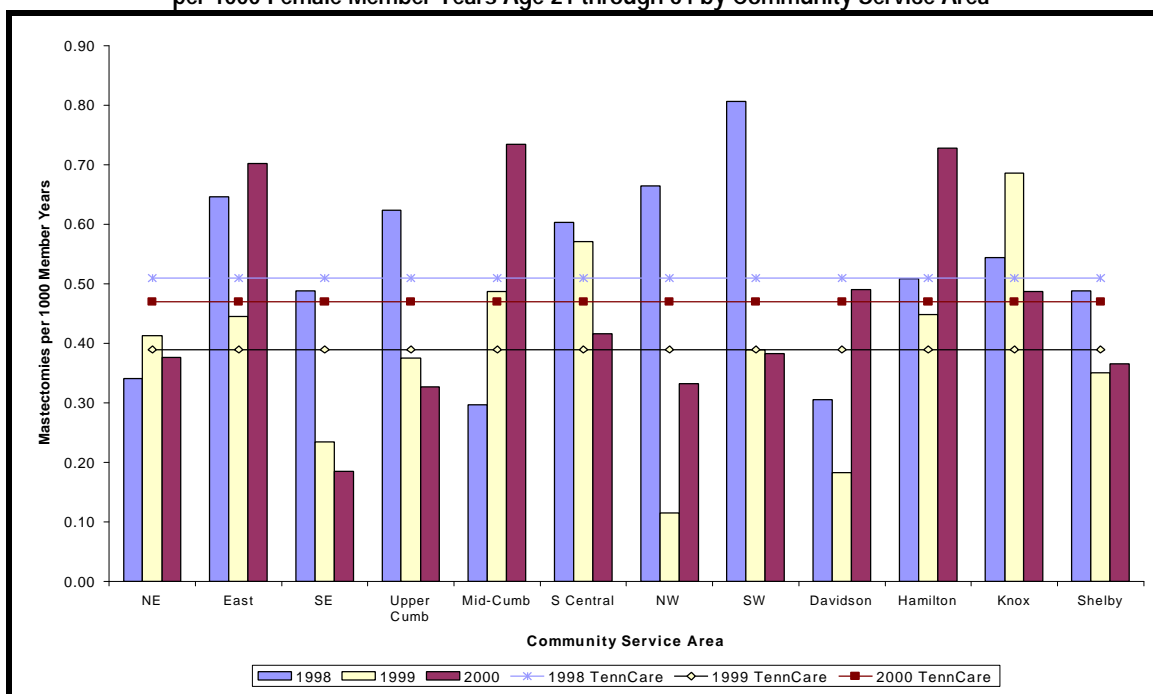


Figure 5.26  
Rate of Mastectomies  
per 1000 Female Member Years Age 21 through 64 by Community Service Area



## Cholecystectomies

The overall TennCare rate for cholecystectomies remained quite stable from 1998 to 2000, with a small decrease in 1999 (2.33 to 2.17 to 2.30 per 1000 member years). Performance for BlueCare, John Deere, PHP, and Access Med Plus was consistently above the TennCare average, while OmniCare, Xantus, and VHP were consistently below. Rates for John Deere were the highest of all MCOs across the three years. With respect to CSA, results for the East, Southeast, South Central, and Hamilton CSAs were consistently above the TennCare average.

**Table 5.14**  
**Rate of Cholecystectomies**  
**per 1000 Female Member Years Age 21 through 64 by MCO and CSA**

	1998	1999	2000
<b>TennCare</b>	2.33	2.17	2.30
<b>MCO</b>			
OmniCare	1.65	1.66	2.09
BlueCare	2.43	2.26	2.25
John Deere	3.22	4.63	2.81
TLC	2.29	1.41	2.53
Xantus	1.62	1.01	1.92
PHP	3.18	3.14	2.67
Prudential	1.77	2.51	n/a
AMP	2.42	2.31	2.41
VHP	0.97	0.98	0.95
<b>CSA</b>			
Northeast	2.11	2.30	2.17
East	2.91	2.96	2.67
Southeast	2.54	3.19	2.59
Upper Cumberland	1.74	1.55	1.68
Mid-Cumberland	2.23	2.29	2.65
South Central	2.66	2.38	2.73
Northwest	2.66	2.13	2.38
Southwest	1.61	1.64	1.76
Davidson	2.38	1.99	2.42
Hamilton	2.94	2.35	2.74
Knox	2.97	2.30	2.19
Shelby	1.97	1.58	2.05

Figure 5.27  
Rate of Cholecystectomies  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization

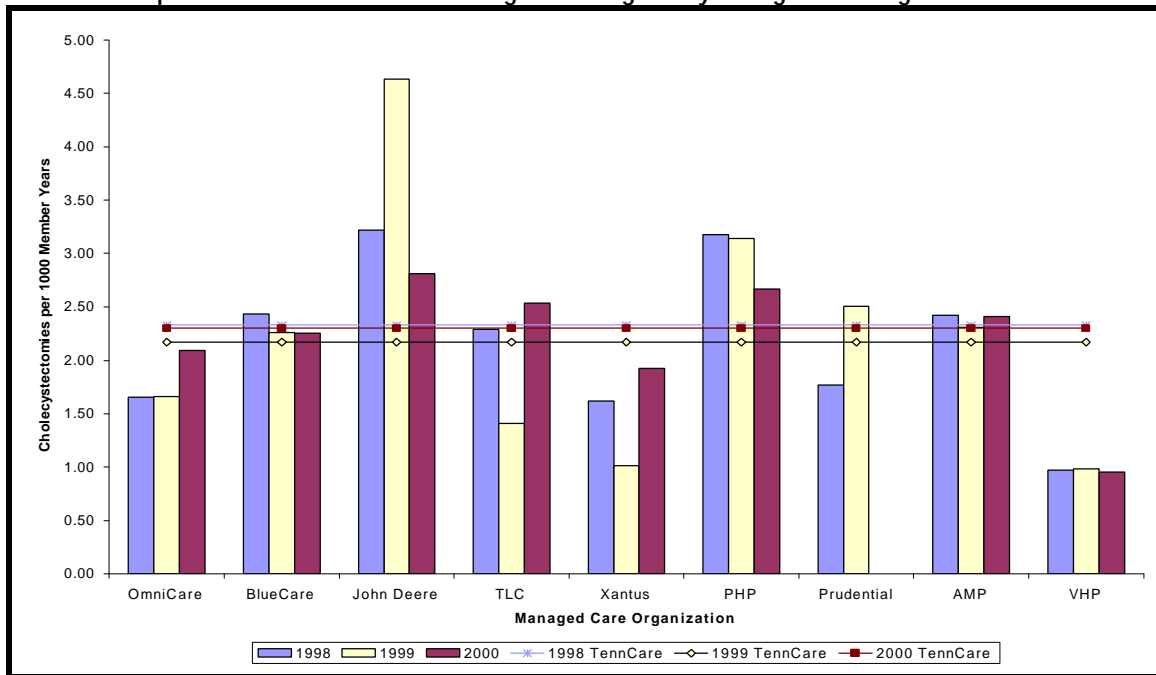
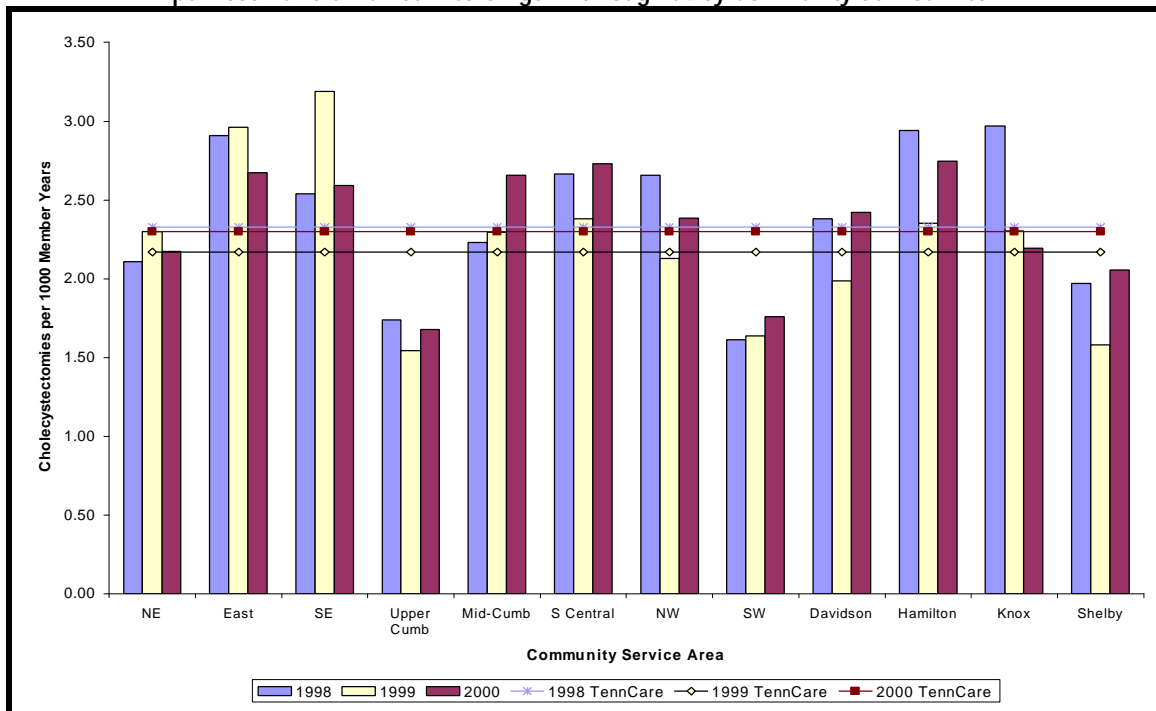


Figure 5.28  
Rate of Cholecystectomies  
per 1000 Female Member Years Age 21 through 64 by Community Service Area







# **Section VI**

## **Diagnosis Data**

This section presents rates of cases of two cancer diagnoses in the female TennCare population during the period 1998 through 2000. The following is a list of the measures presented, including the definitions for each. Specific definitions of the diagnosis codes listed are available from the Bureau of TennCare upon request and contained in the International Classification of Diseases.

**Breast Cancer Cases:** The number of unduplicated individuals with an ICD-9-CM diagnosis of 174 through 174.9, 198.81, 233.0, 238.3, or 239.3.

**Cervical Cancer Cases:** The number of unduplicated individuals with an ICD-9-CM diagnosis of 180, 180.0, 180.1, 180.8, 180.9, or 233.1.

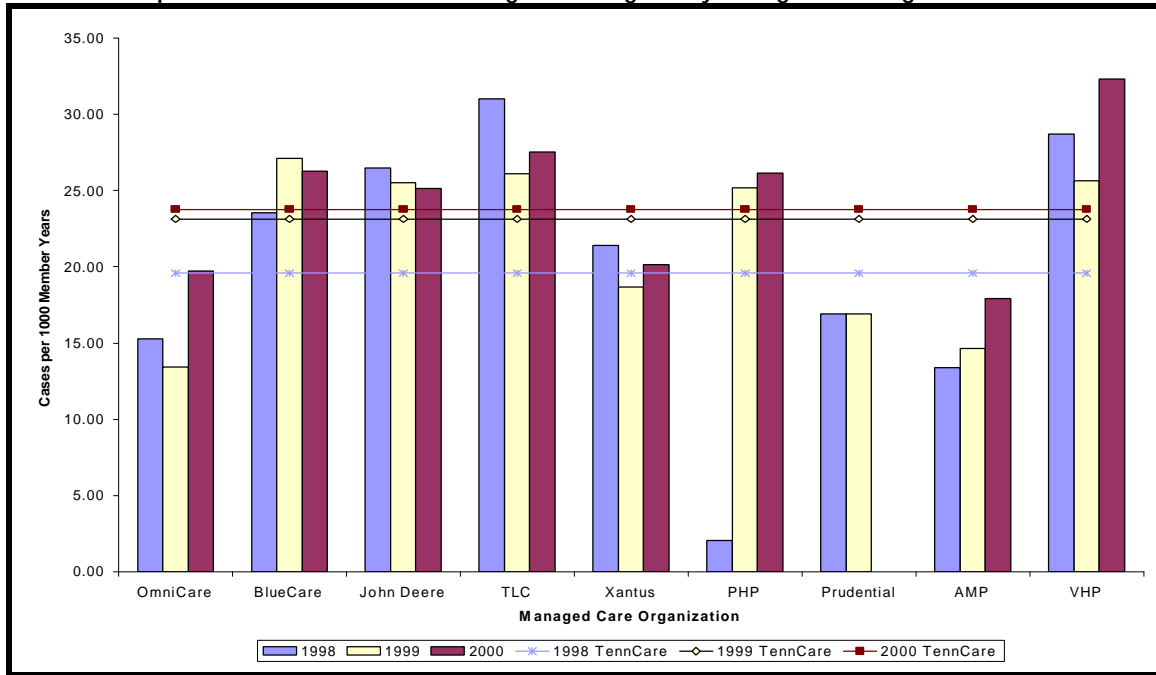
## Breast Cancer

The number of cases of breast cancer for TennCare women increased somewhat from 1998 to 1999 (19.58 to 23.13 cases per 1000 member years) but remained relatively stable in 2000 (23.76 cases per 1000 member years). MCO patterns were somewhat different, with lower rates in 2000 than 1998 for John Deere, TLC, and Xantus. Results for PHP are noteworthy, increasing from 2.06 in 1998 to 26.14 in 2000. With respect to CSA, only the Northeast and Shelby CSAs had 2000 rates lower than those in 1998, and these decreases are slight.

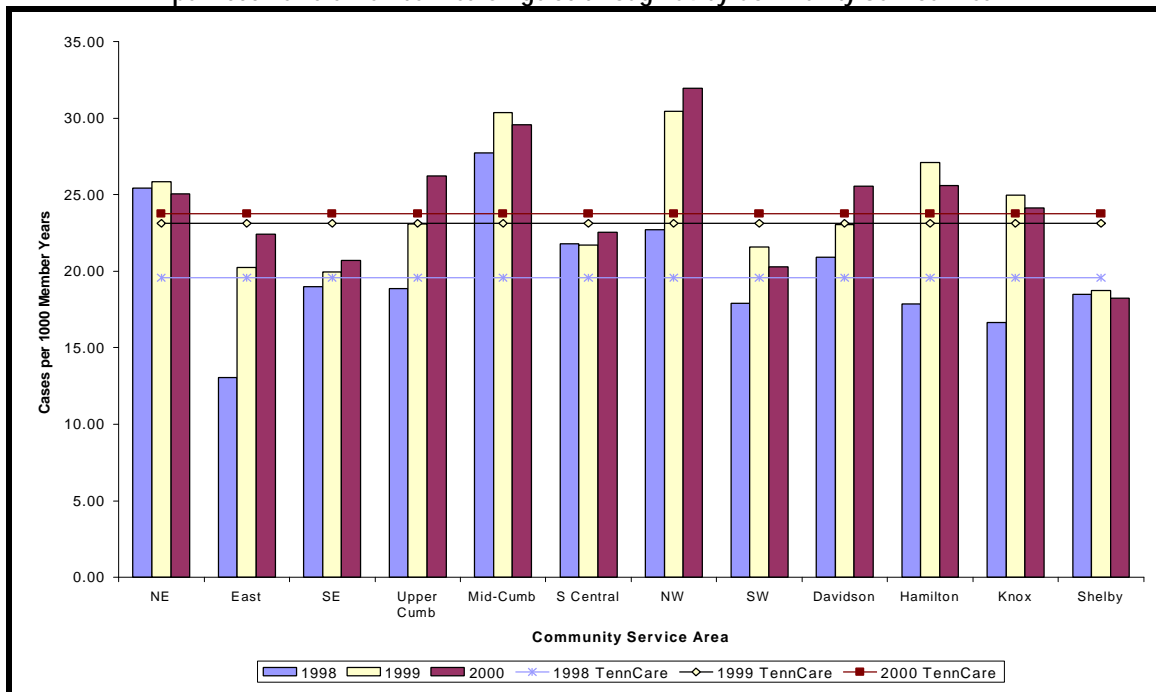
**Table 6.1**  
**Cases of Breast Cancer**  
**per 1000 Female Member Years Age 50 through 64 by Managed Care Organization**

	1998	1999	2000
<b>TennCare</b>	19.58	23.13	23.76
<b>MCO</b>			
OmniCare	15.26	13.45	19.73
BlueCare	23.56	27.10	26.27
John Deere	26.49	25.49	25.15
TLC	30.99	26.11	27.51
Xantus	21.40	18.65	20.15
PHP	2.06	25.18	26.14
Prudential	16.89	16.92	n/a
AMP	13.40	14.64	17.92
VHP	28.68	25.64	32.32
<b>CSA</b>			
Northeast	25.42	25.84	25.06
East	13.05	20.23	22.41
Southeast	18.99	19.95	20.71
Upper Cumberland	18.85	23.08	26.21
Mid-Cumberland	27.72	30.37	29.58
South Central	21.81	21.72	22.53
Northwest	22.73	30.45	31.94
Southwest	17.92	21.57	20.29
Davidson	20.90	23.06	25.54
Hamilton	17.84	27.10	25.61
Knox	16.64	24.97	24.15
Shelby	18.50	18.76	18.23

**Figure 6.1**  
Cases of Breast Cancer  
per 1000 Female Member Years Age 50 through 64 by Managed Care Organization



**Figure 6.2**  
Cases of Breast Cancer  
per 1000 Female Member Years Age 50 through 64 by Community Service Area



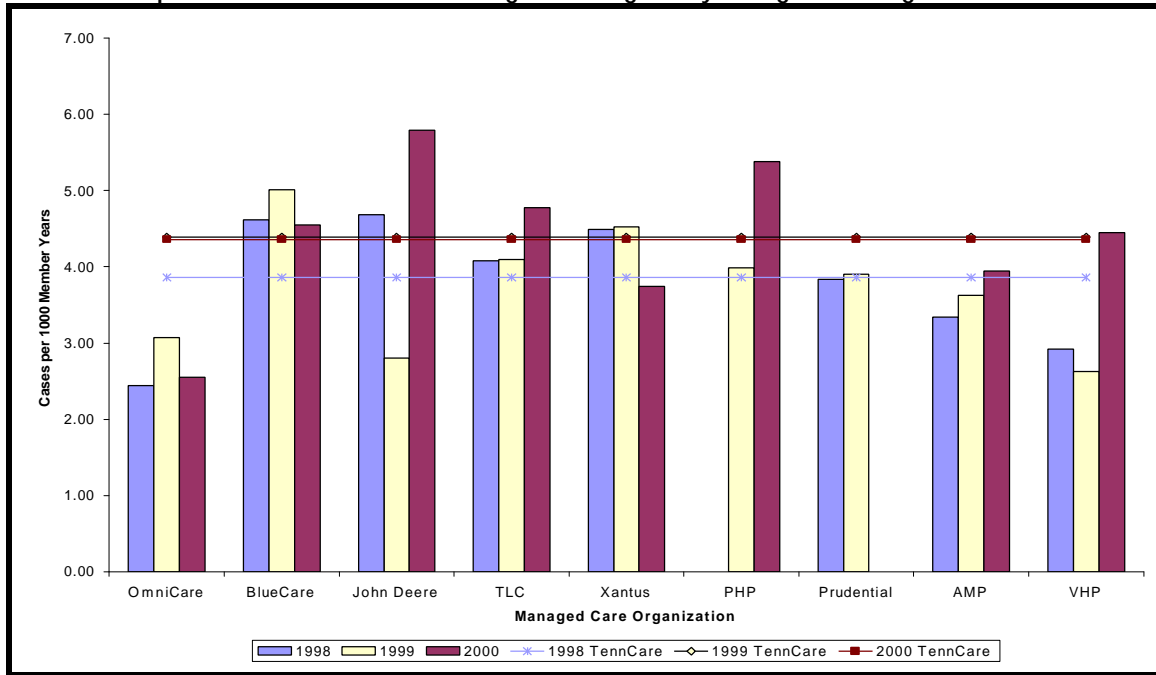
## Cervical Cancer

Like breast cancer, the rate of cases of cervical cancer increased from 1998 to 1999 (3.86 to 4.39 cases per 1000 member years) for overall TennCare, then remained stable in 2000 (4.36 cases per 1000 member years). The 2000 rates for three MCOs (OmniCare, BlueCare, and Xantus) were lower than the 1999 rates. Also similar to the results for breast cancer, PHP had extremely low performance in 1998 (no cases reported) compared to results in 1999 and 2000 (3.98 and 5.38 cases per 1000 member years, respectively). Six CSAs (Northeast, Upper Cumberland, Mid-Cumberland, Northwest, Davidson, and Knox) decreased from 1998 to 2000. Results for OmniCare, Access Med Plus, and the Davidson and Shelby CSAs were consistently below the TennCare average.

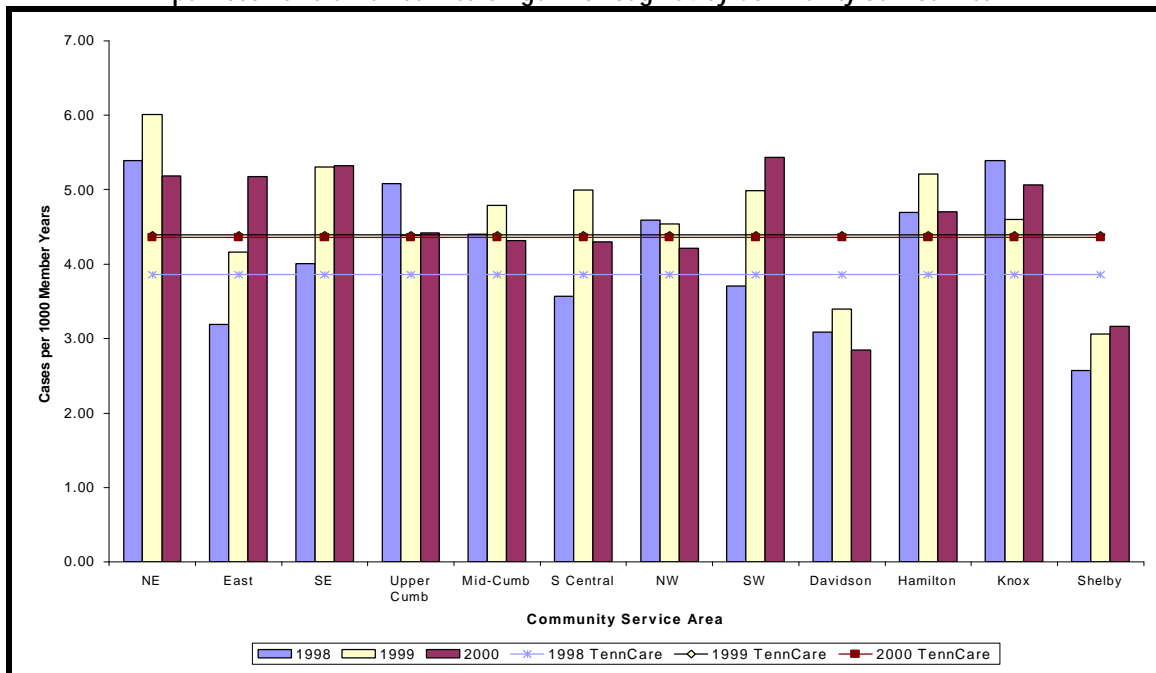
**Table 6.2**  
**Cases of Cervical Cancer**  
**per 1000 Female Member Years Age 21 through 64 by Managed Care Organization**

	1998	1999	2000
<b>TennCare</b>	3.86	4.39	4.36
<b>MCO</b>			
OmniCare	2.44	3.07	2.56
BlueCare	4.62	5.01	4.55
John Deere	4.68	2.80	5.79
TLC	4.07	4.10	4.78
Xantus	4.49	4.52	3.74
PHP	0	3.98	5.38
Prudential	3.83	3.90	n/a
AMP	3.34	3.62	3.94
VHP	2.92	2.62	4.45
<b>CSA</b>			
Northeast	5.39	6.01	5.19
East	3.19	4.16	5.18
Southeast	4.01	5.30	5.32
Upper Cumberland	5.08	4.38	4.42
Mid-Cumberland	4.40	4.79	4.32
South Central	3.57	5.00	4.30
Northwest	4.59	4.54	4.21
Southwest	3.71	4.99	5.43
Davidson	3.08	3.39	2.85
Hamilton	4.69	5.21	4.70
Knox	5.39	4.61	5.07
Shelby	2.57	3.06	3.17

**Figure 6.3**  
Cases of Cervical Cancer  
per 1000 Female Member Years Age 21 through 64 by Managed Care Organization



**Figure 6.4**  
Cases of Cervical Cancer  
per 1000 Female Member Years Age 21 through 64 by Community Service Area





# **Section VII**

## **Geographic Distribution of Providers**



Information regarding geographic distribution of providers is contained in the Bureau of TennCare's Network Adequacy Report. Copies are available from the Bureau upon request.

For questions, comments, and additional information regarding studies and research work at the Bureau of TennCare, please contact Ken Okolo, FACHE, Director of Quality Oversight of the Bureau of TennCare at [kokolo@mail.state.tn.us](mailto:kokolo@mail.state.tn.us).